5848
70

EXOTIC FLORA,

CONTAINING

FIGURES AND DESCRIPTIONS

OF

NEW, RARE, OR OTHERWISE INTERESTING

EXOTIC PLANTS,

ESPECIALLY OF SUCH AS ARE DESERVING OF BEING CULTIVATED IN OUR GARDENS;

TOGETHER WITH

REMARKS UPON THEIR GENERIC AND SPECIFIC CHARACTERS, NATURAL ORDERS, HISTORY, CULTURE, TIME OF FLOWERING, *&c.*

BY

WILLIAM JACKSON HOOKER,

LL.D. F.R.A. & L.S.

MEMBER OF THE IMPERIAL ACADEMY NATURÆ CURIOSORUM; OF THE WERNERIAN NATURAL HISTORY SOCIETY OF EDINBURGH; OF THE GEOLOGICAL AND HORTICULTURAL SOCIETIES OF LONDON; OF THE ROYAL BOTANIC SOCIETY OF RATISBON; OF THE HELVETIC SOCIETY OF NATURAL HISTORY; OF THE PHYSIOGRAPHICAL SOCIETY OF LUND: OF THE PHILOSOPHICAL SOCIETIES OF CAMBRIDGE, AND YORK; OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA; HONORARY MEMBER OF THE ROYAL IRISH ACADEMY; OF THE LYCEUM OF NATURAL HISTORY OF NEW YORK, *&c. &c.*

AND

REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW.

VOL. III.

EDINBURGH:

PRINTED FOR WILLIAM BLACKWOOD, EDINBURGH;

AND T. CADELL, LONDON.

MDCCCXXVII.

P. Neill, Printer, Edinburgh.

ENGLISH INDEX

TO THE

THIRD AND LAST VOLUME OF THE EXOTIC FLORA,

(Comprising Parts XXII. to XXXVIII. inclusive.)

	Plate
Abromia, rose-coloured, -	194
——— sea-side, - -	193
Alstrœmeria, rose-coloured, -	181
Andromeda, willow-leaved, or Wild Arbutus, - -	192
Aneilema, long-leaved, -	204
Arabis, purple flowered, -	221
Arethusa, bulbous, - -	170
Arracacha, - -	152
Asplenium, fan-shape leaved,	208
Bladderwort, large flowered, alpine,	198
Brassia, long-tailed, -	179
Caladium, pedate-leaved, -	206
——— Virginian, -	182
Campuleia, scarlet-flowered, -	203
Cassytha, filiform, -	167
Catasetum, Baron De Schack's many-flowered, - -	151
——— greenish-flowered,	213
Cattleya, long-stalked, -	186
——— splendid-flowered, -	157
Chamomile, South American,	189
Cinnamon, shining-leaved, -	176
Conanthera, bell-flowered, -	214
Corallorhiza, many-flowered American, - -	174
Crinum, long-flowered American,	200
Cunila, scarlet-flowered, -	163
Cuphea, small-flowered, -	161
Dalbergia, Mr Barclay's, -	188
Dendrobium, hollow-lipped, -	184
Didymocarpus, twisted-fruited,	227
Dryas, entire-leaved, -	220
Epidendrum, elliptical-leaved,	207
Eucrosia, two-coloured, -	209
Evening Primrose, fragrant waved-leaved, - -	183
Fieldia, New Holland, -	232
Fig, coriaceous-leaved, -	223
Galega, three-coloured, -	185
Glycine, soft-leaved, -	201
Gongora, dark-flowered, -	178
Grevillea, downy-leaved, -	216
Gusmannia, three-coloured, -	163
Habenaria, long bracteated, -	175
——— purple, fringed, -	224
——— wing-fruited, -	169
Heliconia, Brazilian, -	190
Indian-shot, spreading flowered,	228
Isochilus, grass-like, - -	196
Justicia, yellow-flowered, -	212
Loosestrife, purple-flowered, -	180
Marcgravia, climbing, -	160
Marica, large blue-flowered, -	222
Maxillaria, sweet-smelling, -	219
——— small, - -	217
Neottia, plantain-leaved, -	226
Nutmeg, true, - - -	155, 156
Nuttallia, finger-leaved, -	171
——— pedate-leaved, -	172
Parkeria, Pteris-like, - -	231
Peperomia, kidney-leaved, -	164
——— oval leaved, -	165
Pleurothallus, Ruscus-like, -	197

	Plate
Potato, Madagascar, -	199
Pothos, coriaceous, -	210
—— Mr Harris's, -	211
Pycnostachys, blue, -	202
Pyrethrum, hairy New Holland,	215
Rape of Cistus, - -	153
Rhododendron, tree, -	168
Ruellia, unequal leaved, -	191
Salpiglossis, straw-coloured,	229
Schotia, broad leaved, -	159
Stapelia, large hairy, -	230
Starry Polypodium, narrow-leaved,	162
Stelis, small flowered, -	158
Thunbergia, scarlet-flowered,	195
———— small flowered, -	166
———— wing-petioled, -	177
Tillandsia, aloe-leaved, -	205
———— bulbous, - -	173
———— elegant, - -	134
———— shining broad leaved,	218
Vanda, recurved, - -	187
Violet, stoloniferous New Holland,	225

INDEX,

ALPHABETICALLY ARRANGED,

TO THE

SPECIES AND SYNONYMES CONTAINED IN THE THREE VOLUMES

OF THE

EXOTIC FLORA.

	Plate
Abronia arenaria, *Menz.* -	193
——— *glauca, Menz.* -	194
——— umbellata, *Lam.* -	194
Acrostichum appendiculatum, *W.*	108
Acrostichum serrulatum, Sw. -	78
Acrostichum *viviparum, Ham.* MS.	108
Adiantum caudatum, *W.* -	104
——— hirsutum, *W.* -	ib.
Ageratum conyzoides, *W.* -	15
Alstrœmeria pulchra, (*Sims*, under the name of C. tristis),	65
——— pulchella, *Sims*, -	64
——— rosea, *Hook.* -	181
——— tricolor, *Hook.* -	65
Andromeda salicifolia, *Comm.* -	192
Aneilema longifolia, *Hook.* -	204
Anemia humilis, *Sw.* - -	28
——— repens, *Raddi*, - -	28
Anisopetalum Careyanum, *Hook.*	149
Arabis arenosa, *Sw.* - -	22
Arethusa bulbosa, *Linn.* -	170
——— ophioglossoides, *Linn.*	70
Arum bicolor, *Ait.* - -	26
——— seguinum, *Linn.* - -	1
——— *virginicum, Linn.* -	182
Asarum arifolium, *Mich.* -	40
Aspidium *articulatum, Schl.* -	117
——— nodosum, *W.* -	117
Aspidium Wallichii, *Hook.* -	5
Asplenium flabelliforme, *Cav.* -	208
——— serrulatum, *Sw.* -	78
Balsamina setacea, *Hook.* -	197
Banksia verticillata, *Br.* -	96
Baptisia nepalensis, *Hook.* -	131
Begonia argyrostigma, *Fisch.* -	18
——— *hirta, Wall.* MS. -	89
——— humilis, *Ait.* - -	17
——— *lucida, Haw.* - -	ib.
——— picta, *Sm.* - -	89
——— ulmifolia, *W.* -	57
Berberis aristata, *DC.* - -	98
——— *Chitria, Buch.* -	ib.
——— heterophylla, *Poir.* -	14
——— *sinensis, Desf.* - -	98
——— *tricuspidata, Sm.* MS. -	14
Brassia caudata, *Lindl.* - -	179
Briza alpina, *Sternb.* - -	121
Bromelia nudicaulis, *L.* -	143
——— pallida, *Kerr*, -	41, 42
Cactus pendulus, Sw. - -	2
Cactus truncatus, *Hook.* -	20
Caladium bicolor, *Vent.* -	26
——— pedatum, *Hook.* -	206
——— seguinum, *W.* -	1
——— virginicum, *Hook.* -	182

	Plate
Calceolaria corymbosa, *Cav.* (under the name of C. paralia),	75
——— *integrifolia, L.* -	99
——— *paralia, Cav.* -	75
——— rugosa, *R. & P.* -	99
Calla virginica, Mich. -	182
Callicarpa longifolia, *Lam.* - -	133
Callirrhoe digitata, Nutt. -	171
Calypso *americana, Br.* -	12
——— borealis, *Sal.* - -	12
Calystegia spithamæa, *Pursh,* -	97
Campuleia coccinea, *Hook.* -	203
Canna *indica, Bot. Mag.* - -	228
—— ——— *Rosc.* var. *maculata,*	53
—— *aureo-vittata, Lodd.* -	228
—— gigantea, *Red.* -	47, 48
—— *limbata, Bot. Reg.* - -	228
—— patens, *Ait.* - -	ib.
—— *patens, Roxb.* -	47, 48
Caprifolium pubescens, *Hook.* -	27
Cardamine resedifolia, *L.* -	54
Carolinea alba, *Lodd.* - -	100
Cassytha baccifera, Mill. - -	2
——— filiformis, *Linn.* -	167
Catasetum floribundum, *Hook.*	151
——— semiapertum, *Hook.*	213
——— tridentatum, *Hook.*	90, 91
Cattleya labiata, *Lindl.* -	157
——— Loddigesii, *Lindl.* -	186
Chalcas paniculata, *Lam.* -	134
Chiococcum racemosum, *L.* -	93
Chrysiphiala pauciflora, *Hook.*	182
Cinnamomum nitidum, *Hook.* -	176
Coccoloba diversifolia, *Jacq.* -	102
Colutea herbacea, W. - -	84
Commelina dubia, Jacq. - -	94
Conanthera? campanulata, *Hook.*	214
——— *bifolia, Bot. Mag.* -	ib.
Conium Arracacha, *Hook.* -	152
——— *moschatum, Humb.* -	ib.
Convolvulus spithamæus, W. -	97
Corallorrhiza *innata, Nutt.* -	174
——— multiflora, *Nutt.* -	ib.
Convallaria oppositifolia, *Lodd.*	125
Cranichis luteola, Sw. - -	103
Crinum undulatum, *Hook.* -	200
Cunila coccinea, *Nutt.* - -	163
Cuphæa parviflora, *Hook.* -	161
Cuscuta verrucosa, *Roxb.* -	150
Cymbidium bituberculatum, *Hook.*	116
——— *graminoides, Sw.* -	196
Cymbidium lancifolium, *Hook.* -	51
Cypripedium bulbosum, L. -	12
Cypripedium insigne, *Wall.* -	34
——— venustum, *Wall.* -	35
Cytinus Hypocistis, *Linn.* -	153
Dalbergia Barclayii, *Telf.* -	188
Dalea bicolor, *W.* - -	43
Dendrobium album, *Hook.* -	142
——— Barringtoniæ, *Sw.*	119
——— Calceolaria, *Carey,*	184
——— fimbriatum, *Hook.*	71
——— Harrisoniæ, *Hook.*	120
——— Pierardi, *Roxb.* -	9
——— *polystachion, Sw.* -	103
——— *racemiflorum, Sw.*	123
——— *ruscifolium, W.* -	197
Didymocarpus Rexii, *Bow.* -	227
Diospyros vaccinioides, *Lindl.* -	139
Donia ciliata, *Nutt.* - -	45
Doodia aspera, *Br.* - -	8
——— caudata, *Br.* - -	25
Dorstenia arifolia, *Lam.* - -	6
Dryas integrifolia, *Vahl,* -	220
—— tenella, *Banks,* - -	ib.
Epidendrum *Barringtoniæ,* -	119
——— *caudatum, Linn.* -	179
——— ellipticum, *Grah.*	207
——— *graminoides, Sw.* -	196
——— *minutum, Aubl.* -	103
——— nutans, *Sw.* -	50
——— *ruscifolium, Jacq.* -	197
——— *violaceum, Lodd.* -	186
Epiphyllum truncatum, Haw. -	20
Eucrosia bicolor, *Kerr,* - -	209
Euphorbia astinifolia, *L.* - -	59
——— hypericifolia, *L.* -	36
Ficus coriacea, *Ait.* - -	223
—— nitida, *Thunb.* -	111
Fieldia australis, *Cunn.* -	232
Galega tricolor, *Hook.* -	185
Glycine mollis, *Hook.* - -	201
Gongora atro-purpurea, *Hook.* -	178
Goodyera procera, *Hook.* -	39
Grammitis serrulata, *Sw.* -	78
——— *graminoides, Sw.* -	77
Græmia aromatica, *Hook.* -	189
Grevillea pubescens, *Hook.* -	216
Gusmannia tricolor, *R. & P.* -	163
Habenaria alata, *Hook.* -	169
——— blephariglottis, *Hook.*	87
——— bracteata, *Br.* -	175

	Plate
Habenaria dilatata, *Hook.* -	95
——— fimbriata, *Br.* -	224
——— gracilis, *Coleb.* MS.	135
——— marginata, *Coleb.* MS.	136
——— orbiculata, *Hook.* -	145
——— tridentata, *Hook.* -	81
Hedychium spicatum, *Sm.* -	46
Heliconia braziliensis, *Hook.* -	190
Hemionitis palmata, *L.* -	33
Heteranthera graminea, Vahl, -	94
Hydrocotyle nitidula, *Rich.* -	29
——— nepalensis, *Hook.* -	30
Iantha pallidiflora, *Hook.* -	113
Impatiens *setacea, Coleb.* MS. -	137
——— trilobata, *Coleb.* MS.	141
Isochilus graminoides, *Hook.* -	196
Justicia calytricha, *Otto,* -	212
Laurus Cassia, Nees, - -	176
——— *nitida, Roxb.* - -	ib.
Leptanthus gramineus, *Mich.* -	94
Lessertia annua, *DC.* - -	84
Limodorum boreale, W. - -	12
Loasa nitida, *Lam.* - -	83
——— *tricolor, B. M.?* - -	ib.
Lobelia micrantha, *Hook.* -	44
Lycopodium dendroideum, *Mich.*	7
——— *obscurum, L.* -	ib.
Lysimachia atro-purpurea, *L.* -	180
Malaxis caudata, W. - -	179
Marcgravia umbellata, *L.* -	160
——— *scandens, Br.* -	ib.
Maxillaria aromatica, *Grah.* -	219
——— parvula, *Hook.* -	217
Marica cœrulea, *Kerr,* - -	222
Megasea? ciliata, Haw. - -	49
Monarda Russelliana, *Nutt.* -	130
Monotropa uniflora, *W.* -	85
Murraya paniculata, *Mil. Misc.*	134
Myristica *aromatica, Lam.* MS.	156
——— *moschata, Thunb.* -	ib.
——— officinalis, *L.* -	155, 156
Neottia plantaginea, *Hook.* -	226
——— *procera, Nutt.* - -	39
——— speciosa, *Br.* - -	3, 4
Nuttallia digitata, *Dicks.* -	171
——— pedata, *Nutt.* -	172
Œnothera odorata, *Jacq.* -	183
——— serrulata, *Nutt.* -	140
——— speciosa, *Nutt.* -	80
——— *undulata, Ait.* -	183
Ophioglossum petiolatum, *Hook.*	56

	Plate
Ophrys lutea, *Cav.* - -	10
Orchidium boreale, *Sw.* -	12
Orchis blephariglottis, W. -	87
——— *bracteata, W.* - -	175
——— *bracteatis, Salisb.* - -	ib.
——— *dilatata, Pursh,* - -	95
——— *fimbriata, Dry.* - -	224
——— *humilis, Mich.* - -	69
——— *orbiculata, Pursh,* -	145
——— spectabilis, *L.* - -	69
——— *tridentata, Muhl.* MS. -	84
Ornithidium coccineum, *Sal.* -	38
Ornithocephalus gladiatus, *Hook.*	127
Orontium aquaticum, *L.* -	19
Osbeckia *crinita, Sw.* MS. -	37
——— stellata, *Ham.* -	ib.
——— nepalensis, *Hook.* -	31
Osmunda humilis, Cav. - -	28
Pachysandra coriacea, *Hook.* -	148
Parkeria pteridioides, *Hook.*	147 & 231
Paullinia meliæfolia, *Juss.* -	110
Peperomia blanda, *Humb.* -	21
——— incana, *Hook.* -	66
——— maculosa, *Hook.* -	92
——— ovalifolia, *Hook.* -	165
——— pereskiæfolia, *Kunth.*	67
——— polystachia, *Hook.* -	23
——— quadrifolia, *Humb.* -	22
——— reniformis, *Hook.* -	164
——— rubella, *Hook.* -	58
——— *variegata, R. & P.* -	92
Pholidota imbricata, *Hook.* -	136
Pinguicula edentula, *Hook.* -	16
Piper blandum, Jacq. - -	21
——— *incanum, Haw.* - -	66
——— *maculosum, L.* - -	92
——— *pereskiæfolium, Jacq.* -	67
——— *polystachion, Ait.* -	23
——— *quadrifolium, Sw.* -	22
——— *rubellum, Haw.* - -	58
Pleopeltis angustifolia, *Humb.* -	61
——— ensifolia, *Carm.* -	62
——— nuda, *Hook.* - -	63
Pleurothallis coccinea, *Hook.* -	129
——— racemiflora, *Lindl.* MS.	123
——— ruscifolia, *Br.* -	197
Pogonia ophioglossoides, *Kerr,* -	70
Polybotria vivipara, *Ham.* MS.	107
Polypodium pertusum, Roxb. -	162
——— plantagineum, *Jacq.*	114
Potentilla nepalensis, *Hook.* -	88

	Plate
Pothos acaulis, *Jacq.* - -	122
——— coriacea, *Grah.* - -	210
——— Harrisii, *Grah.* - -	211
——— violacea, *Sw.* - -	55
Pourretia sympaganthera, R. & P.	163
Prescotia plantaginifolia, *Lindl.*	115
Primula Palinuri, *Jacq.* -	118
——— *prænitens, Ham.* -	105
——— pusilla, *Hook.* -	68
——— sinensis, *Sab.* -	105
Pycnostachis cœrulea, *Hook.* -	202
Pyrethrum diversifolium, *Grah.*	215
Rhipsalis Cassutha, *Gærtn.* -	2
Rhododendron arboreum, *Sw.* -	168
——— *puniceum, Roxb.*	168
Roscoea purpurea, *Sm.* -	144
Ruellia anisophylla, *Wall.* -	191
Ruta albiflora, *Hook.* - -	79
Saccanthus rostratus, Lind. -	187
Salpiglossis straminea, *Hook.* -	229
Sarracenia *psittacina? Mich.* -	13
——— rubra, *Wall.* -	ib.
Saxifraga ligulata, *Wall.* -	49
Schizanthus pinnatus, *R. & P.* -	73
——— porrigens, *Hook.* -	86
Schizopetalon Walkeri, *Sims,* -	74
Schollera graminifolia, W. -	94
Schotia latifolia, *Jacq.* - -	159
Scutellaria parvula, *Mich.* -	106
Serapias Lingua, *L.* - -	11
Sisymbrium arenosum, *L.* -	221
Solanum Anguivi, *Lam.* -	199
Stapelia hirsuta, *L.* - -	230
Stelis micrantha, *Sw.* - -	158
Stylidium laricifolium, *Rich.* -	32
——— *tenuifolium, Br.* -	ib.
Synedrella nodiflora, *Gærtn.* -	60
Tænitis graminifolia, *Hook.* -	77
Talinum ciliatum, *R. & P.* -	82
Thunbergia alata, *Roxb.* -	177
——— angulata, *Helsin.* -	166
——— coccinea, *Wall.* -	195
Tillandsia aloifolia, *Hook.* -	205
——— *amœna, Lodd.* -	41, 42
——— bulbosa, *Hook.* -	173
Tillandsia nitida, *Hook.* -	218
——— pulchra, *Hook.* -	154
Trichilia odorata, *Andr.* -	128
Trichomanes elegans, *Rud,* -	52
——— membranaceum, *L.*	76
Trisetius admirabilis, *L'Her.* -	194
Trixis senecioides, - -	101
Trizeuxis falcata, *Lindl.* -	120
Utricularia *alpina, L.* - -	198
——— grandiflora, *Pers.* -	ib.
——— montana, *Jacq.* -	ib.
——— unifolia, *R. & P.* -	ib.
Vanda recurva, *Hook.* - -	193
——— *rostrata, Lodd.* - -	ib.
———? tricorhiza, *Hook.* -	72
Velleia lyrata, *Br.* - -	24
——— *spathulata, Juss.* -	ib.
Verbesina nodiflora, L. - -	63
Viola hederacea, *Lab.* - -	225
Woodwardia caudata, Cav. -	25

Catasetum floribundum.

CATASETUM FLORIBUNDUM.

Baron de Schack's many-flowered Catasetum.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Corolla* resupinata; *foliolis* quinque subæqualia; labello saccato-concavum. *Columna* bicornis; cornna retrorsa, filiformia, arcuato-conniventia. *Anthera* operculata, columna interne infra apicem attenuato-subulatum insidens. *Pollinis massæ* duæ, pedicello communi suffultæ.—Rich. MSS. *in Kunth.*

Parasiticum. Folia *membranacea, ex apice bulbi erumpentia.* Pedunculi *radicales, uni- pauci- multiflori, bracteati.* Flores *magni.*

Catasetum *floribundum;* spica foliis breviore, labello obtusissime tridentato, petalis subæqualibus late ovatis acutis duobus interioribus intus purpureo-maculatis, reliquis columnaque concoloribus.

Parasitic. *Plant* from a foot to a foot and a half high, throwing out several thick, fleshy, simple, white fibres. *Bulbs* oblong, compressed, 6–10 inches long, fleshy, covered with the dry sheathing bases of the old leaves, and terminated at the extremity by a crown of 3–4 lanceolate pale green, ribbed, carinated and undulated, subreflexed acute *leaves,* about a foot long.

Scape arising from the very base of the bulb, about a foot high, cylindrical, at intervals furnished with green membranaceous sheaths, and curved with the weight of its many large fleshy *flowers,* which form a lax broad spike at the extremity. *Bracteas* lanceolate, shorter than the germen.

Flowers very large, beautiful, scentless. *Petals* equal in length: the three outer ones nearly equal in size, the terminal one approaching to lanceolate, concave, subconnivent, pale green, united at the base, the back subcarinated, the apex very acute, both within and without of an uniform pale green colour. Two inner petals equal in size with the two lateral outer ones, and differing from them only in being faintly spotted with purple in the inside. *Lip* superior, cucullate, large, thick, fleshy, the margin in front tridentate, teeth very obtuse, the sides lengthened out towards the base of the column; its colour is a deep yellow, the extremity pale green, within it has large deep purple blotches. *Column* confluent, as it were, with the back of the lip, leaning a little forward, about 2 inches

long, pale green, thick and fleshy, its base bearing two filiform processes, about an inch long, which enter the hollow of the lip, and are curved or flexuose: the column itself is semicylindrical, tapering upwards into an acuminated and unguiculated point, to the underside of which the large *anther-case* is fixed, which takes the form of the part to which it is laterally applied, is broadly subulate, and at its lower part within bears two cells. *Pollen-mass* exactly as in *C. tridentatum* of this work. *Stigma* anterior, subquadrate, concave, viscid.

I have here the great satisfaction of figuring another fine and new species of *Catasetum*, which blossomed in the stove of our Botanic Garden in November 1824. The plant was received from Baron De Shack of Trinidad, whose recent decease has deprived our noble garden of one of its most valuable and liberal contributors. This is the second species of that suberb genus which had been introduced by that gentleman to our gardens; and to his memory I am desirous of dedicating the present individual.

Catasetum floribundum differs from the *C. tridentatum* (t. 90, 91.) in the much larger size of its flowers, their more globose form, and more connivent petals; and essentially in the much broader, acute, and by no means acuminate petals, the exterior of which are indeed (at least the two lateral ones) equal in size with the two interior ones. I may further remark, that here the two inner petals are of the same hue as the rest, only spotted within with purple, and the lip is covered internally with deep blotches of purple; whereas in *C. tridentatum* the two inner petals are coloured and also spotted within and without, and the lip is inside almost wholly yellow.

From *C. Claveringi* of Lindley in *Bot. Reg.* t. 840., it may be somewhat more difficult to discriminate our plant. The former, however, is much larger in all the parts of its flowers, the petals are described (though not so figured) as obtuse, and all of them are purple within *. The column and the filamentous

---

* I fear, however, little dependence is to be placed upon colour. We have had another plant of *Catasetum* from Trinidad, which flowered in the stove of our Botanic

processes are deeply spotted with purple, and internally the lip is yellow; its teeth are longer and more acute. *C. Claveringi* is described as having its flowers very evanescent, expanding slightly in the middle of the day, and diffusing a faint smell like myrrh. The blossoms of the present plant are perfectly scentless: they continued in great perfection for three or four days in the stove, without exhibiting any symptoms of decay, and the flower-stalk having been then cut off, it continued in great beauty for almost a week longer.

C. Claveringi is a native of Brazil.

Mr LINDLEY enumerates five certain and one doubtful species of *Catasetum*. The subject of the present plate adds another to this truly noble genus.

It was not difficult, in this individual, to distinguish the cause of the highly elastic property of the pollen-mass. It resides in the *stalk* of the masses, which is a thin, broad, membranaceous, and very tough plate. It is spread over a convex surface on the front of the column, whilst the masses themselves are in a measure confined in a hollow above, and the large gland is held in by another hollow below the swelling. When the anther-case is removed, the plate quits the spot where it was before retained, and its margins rolling in suddenly and quickly, the whole is thrown off with a jerk to a great distance. The cavity at the base of the gland is filled with a thick, white, glutinous substance of an unpleasant smell.

Fig. 1. Front view of a flower, removed from its natural position, with the petals forced open. Fig. 2. Column, with the pollen-masses as they appear whilst the anther-case is carefully and artificially removed. Fig. 3. Anther-case removed from the column. Fig. 4. Back view of a

---

Garden, and differs only in colour from our *C. floribundum*. The lip is pure yellow in the inside, and all the petals are of a pale purplish colour, all of them minutely spotted with purple within, and obscurely so even without. The margin of the lip is indeed slightly ciliato-crenate (a mark I may have overlooked in the plant above described); and this will bring it near to the *C. maculatum* of HUMBOLDT and KUNTH. At Fig. A. a flower of this variety, as I consider it, is represented.

pollen-mass (with its stalk rolled in at the margins), as it appears after its ejection from the column. Fig. 5. Front view of the same. Fig. 6. Pollen-mass, *magnified.*—*All but* Fig. 6. *of the natural size.* Fig. A. A flower of the variety mentioned in the subjoined Note, *nat. size.*

Pastinaca Sativa

CONIUM Arracacha.

Arracacha.

PENTANDRIA DIGYNIA.—Nat. Ord. *UMBELLIFERÆ.*

Gen. Char.—*Fructus* ovatus, costis 10, acutis, immaturis undulatis (an semper?). *Cal.* obsoletus. *Pet.* obcordata subinæqualia. *Styli* basi tumidiusculi. *Receptac.* floris dilatatum depressum undulatum persistens. *Flores* subirregulares hermaphroditi (nunc imperfecti).—*Sm.*

Conium *Arracacha*; foliis pinnatis, pinnis 5 late ovatis acuminatis inciso-pinnatifidis profunde serratis, duobus inferioribus petiolatis subternatis, floribus radii hermaphroditicis, centri masculinis vel omnino imperfectis.

C. moschatum, Humb. et Kunth, *Nov. Gen.* v. 5. p. 14. t. 420.?—Kunth, *Syn. Pl. Æq.* v. iii. p. 97.?

Root, in a state of cultivation, forming large oblong tubers, often as large as that of the carrot. *Stem* a foot and a half or more in height, branched above, terete, striated, glabrous, leaves glabrous, the lower ones upon very long, striated footstalks, sheathing at the base, pinnated with 5 broadly ovate, acuminated pinnæ, pinnatifid, cut and deeply and irregularly serrated at the margin: of these pinnæ, the uppermost one is more or less petiolated and subternate. Upwards upon the stem, the leaves become gradually smaller, more simple, and with shorter petiols, till at length the uppermost ones are almost sessile, trifid or tripartite, and acutely serrated; and all of them nerved and veined.

Umbels rarely lateral, mostly terminal, small, compound. *Involucres* none. *Partial* ones few, small, subulate, about 3. *Rays* 10–12. *Flowers* on short pedicels; abortive ones nearly sessile, occupying the centre of the partial umbels. These are of two kinds: some bear perfect stamens, and differ from the perfect flowers in having no pistil, and only a small depressed superior disk or gland; others are altogether imperfect, very small: their petals never expand (see Fig. 1.), and the stamens which surround a small depressed gland are extremely imperfect. The *hermaphrodite flowers* occupy the circumference, and have 5 nearly equal, spreading, inversely heart-shaped *petals*, with an incurved acumen, whitish, green on the outside in the centre. *Stamens* 5. *Filaments* curved. *Anthers* roundish, somewhat 2-lobed. *Germen* ovate, with 10 striæ. *Styles* 2, erect, afterwards curved outwards, their bases slightly swelling, and surrounded by a waved annulus. *Fruit* (but hardly ripe)

ovato-elliptical, scarcely compressed, each akenium having 5 longitudinal, but scarcely acute ribs, and terminated by the persistent *styles*.

The first account which reached our country of this interesting and valuable plant, was published in the first volume of the *Annals of Botany* about the year 1805, from a communication made to the Editors of that excellent work by Mr VARGAS, a native of Santa Fè de Bogotà, a gentleman of great attainments, who at that period was residing in London.

" This plant," says M. VARGAS, " known in Santa Fè de Bogotà by the name of *Arracacha*, is one of the most useful of the vegetables in that part of America. It belongs to the Order *Umbelliferæ*, and in its habit resembles an *Apium*; whence, in some parts of the country, it is called *Apio*. Its stalk generally divides from the upper part of the root into several stems, thickly beset with large orbicular leaves gashed into several sinuses, and supported by large tubular petiols, exceeding a goose-quill in thickness. The roots immediately divide into four or five branches; and each of these, if the soil be light and the weather favourable, will grow to the size, and have nearly the shape, of a large cow's horn. This root yields a food which is prepared in the same manner as potatoes, is grateful to the palate, and so easy of digestion, that it frequently constitutes the chief aliment of the sick. Starch and pastry are made from its fecula, and the root, reduced to pulp, enters into the composition of certain fermented liquors, supposed to be efficacious as tonics. In the city of Santa Fè, and indeed wherever it can be procured, the *Arracacha* is as universally used as the potato is in England. The cultivation of this plant requires a deep black mould, that will easily yield to the descent of the large vertical roots. It is propagated by planting pieces of the root, in each of which is an eye or shoot; these acquire in three or four months a size sufficient for culinary purposes, though, if permitted to continue six months in the ground, they attain to immense dimensions, without any injury to their flavour. The colour of the root is white, yellow, or purple, but all the varieties have the same quality.

" Like the potato, the *Arracacha* does not thrive in the hotter regions of the kingdom, for there the roots will not acquire any size, but throw up a great number of stems, or at best they will be but small and indifferent in flavour. In the countries which are there called temperate, being less hot than those at the foot of the Cordilleras, this vegetable sometimes succeeds, but never so well as in the elevated region of those mountains, where the medium heat is between 58° and 60° of Fahrenheit. Here it is that these roots grow the most luxuriantly, and acquire the most delicious taste."

Mr VARGAS farther remarks, that he was not aware of the existence of this plant in any other part of America than the kindgom of Santa Fè; and also that it is not mentioned by any American writer except ALCEDO, who notices it in few words, at the end of his "*Diccionario Geographico-historico de las Indias Occidentales ò America.*"

I believe that nothing farther had been made known respecting the *Arracacha* until the late Baron DE SHACK, within few years, endeavoured to introduce this valuable vegetable into the Old World, and at three different periods communicated living roots to our garden at Glasgow, to that of Liverpool, and I believe also to the Horticultural Society of London. Both his and our expectations were very highly raised. We hoped that by care, and a gradual inuring of the offsets to the temperature of our climate, the roots might become as hardy as those of the potato. Unhappily our anticipations have been disappointed; although we have tried almost every variety of situation, temperature, and soil, with us they have only produced, at best, a few leaves, and at the end of the year, or even less, have perished altogether. Mr SHEPHERD alone has been so fortunate, during the early part of the spring of 1824, as to have a few plants flowering in his garden. From these the present figure and description have been taken.

According to letters which I have received from Baron DE SCHACK, the *Arracacha* is an essential article of food, not only to the poor, but to the rich, throughout Santa Fè and New Granada, and is every where cultivated as carrots are with us. That gentleman also found it abundantly in the Caraccas and

the adjacent mountainous country, (but whether indigenous or not he does not mention), and thence he took plants, which he placed in his garden at Trinidad, where the roots attained a good size; but, probably owing to a too great degree of heat, they did not flower. From Trinidad they were sent to us.

It is remarkable that HUMBOLDT does not appear to be acquainted with this plant. Under his description of the *Conium moschatum*, indeed, which grows in cold places in the Province of Los Pastos, near Tcindala, at an elevation of about 8400 feet above the sea, and where the plant is called by the natives *Saccharacha*, he questions whether, as the vernacular name would seem to intimate, the true *Arracacha*, so famous for its esculent roots, may not be allied in species to it. I was indeed disposed, from HUMBOLDT's figure and description, to consider the two plants as the same species; but afterwards, on comparing them more carefully, I thought it better to hold them distinct. The more compound leaves, the segments far less acuminated and less deeply serrated, and, at least when dry, spotted; the umbel much larger, with a trifid involucre, and a larger fruit, which is also broader at the base; these circumstances, though indicating a close alliance of the two plants, and in themselves perhaps variable, have actuated me to constitute the *Arracacha* a new species.

Fig. 1. Abortive flower. Fig. 2. The same, deprived of its petals. Fig. 3. Male flower. Fig. 4. Perfect flower. Fig. 5. Petal. Fig. 6. Stamen. Fig. 7. Fruit (scarcely ripe). Fig. 8. Transverse section of the fruit.—*All more or less magnified.*

Cytinus hypocistis

CYTINUS HYPOCISTIS.

Rape of Cistus.

MONŒCIA MONADELPHIA.—NAT. ORD. *ARISTOLOCHIÆ?*

GEN. CHAR.—MASC. *Perianthium* simplex, campanulatum, quadrifidum, basi bisquamosum. *Antheræ* 8, biloculares. FŒM. *Perianthium* ut in mare. *Stigma* capitatum, sulcatum. *Bacca* 8-locularis.—*Pers.*

Plant parasitical upon the roots of some species of *Cistus*. *Stem* 2–4 inches long, quite simple, fleshy, whitish, from a narrow base, gradually enlarged upwards, clothed with numerous imbricating scales, and with only the upper part appearing above ground. *Scales* ovato-lanceolate, fleshy, those below small, yellow, often tinged with brown, those above much larger and longer, bright yellow, with a tinge of red, slightly downy. *Flowers* monœcious, within the uppermost scales, one in each, tubulato-campanulate, of a fleshy substance near the base, having an opposite pair of lanceolate scales meeting together at the top, and at first covering the flowers, slightly downy: the single *Perianthium* is 4-lobed; lobes scarcely spreading, ovate, obtuse. The *male* and *female flowers* seem to be exactly alike. In the *Male*, the base is thick and fleshy, and apparently on dissection having 4 abortive cells. *Column* of the stamens short, cylindrical. *Anthers* oblong, 8 in number, surrounding the top of the column, and sessile upon it. *Female perianth* adherent with the ovary. *Style* short, cylindrical, downy. *Stigma* capitate, with 8–10 deep furrows, brown: the ridges looking like so many abortive anthers. As far as I could judge from the transverse section of a single *germen*, there appeared to be one cell, with 8 elevated, longitudinal ridges, upon which the numerous ovules were inserted. Authors, however, describe the fruit as an oval coriaceous Berry, of eight cells, containing many small rounded seeds.

Having received some recently dried specimens of the *Cytinus hypocistis* from the South of France from Professor DELILE of Montpellier, and a sketch and some notes made from fresh individuals by my friend G. BENTHAM, Esq. of the same country, I am now enabled to publish a figure of this rare and curious plant.

The specimens here delineated were gathered at Grammont, near Montpellier. It is found in other parts of the south of France and in Barbary, being almost always attached to the roots of *Cistus Monspeliensis*; but, according to Mr BENTHAM, its presence does not seem to affect the health and vigour of the plant upon which it grows. Its first appearance is that of a small scaly tubercle, whose base is firmly incorporated with the wood of the root. The hue of the plant varies from a lemon colour to rather a bright red. It is probably the resemblance of its colour to that of the pomegranate, as well its form, which gave rise to its generic name of *Cytinus*, (from κυτινος, *pomegranate flowers*).

DE CANDOLLE doubts whether this genus, which is confined to a single species, should be retained in the Natural Order *Aristolochiæ*. It differs, indeed, in very many points, and should perhaps constitute an order of itself.

Fig. 1. Floral bractea. Fig. 2. Inside view of the flower and bractea. Fig. 3. Back view of a flower removed from the bractea. Fig. 4. Male flower. Fig. 5. Section of the same. Fig. 6. Anther. Fig. 7. Female flower. Fig. 8. Style and stigma. Fig. 9. Section of a germen.—*All more or less magnified.*

Tillandsia fuelchella.

F. Lucas Sculp.

TILLANDSIA PULCHRA.

Elegant Tillandsia.

HEXANDRIA MONOGYNIA.—NAT. ORD. *BROMELIACEÆ.*

GEN. CHAR.—*Calyx* trifidus, persistens. *Corolla* trifida, campanulata. *Capsula* trilocularis, loculis polyspermis. *Semina* papposa.

Tillandsia *pulchra*; foliis tenuissime subulatis canaliculatis sublepidotis, spica simplici, bracteis flore brevioribus (roseis), corolla alba stamina excedentibus, laciniis apice patentibus obtusis.

Parasitical; loosely adhering to the branches of trees, by means of a few simple, flexuose fibres. *Leaves* mostly radical, very numerous, 4–6 inches long, subulate, about a quarter of an inch wide at the base, and gradually attenuated into a very long, slender extremity, quite entire, grooved, scarcely perceptibly mealy, of a dull bluish-green colour. *Flowering stems* hardly longer than the root-leaves, clothed with small leaves, which gradually assume the form of *bracteas* upwards.

Spike 2–3 inches long, simple, consisting of about 10 or 12 *flowers*. *Bractea* almost as long as the flower, and half embracing it with its convolute margins, ovato-lanceolate, of a beautiful rose colour: the lower ones tipped with a green mucro. *Calyx* of three lanceolate, white, appressed segments, of which one seems to be separated to the base; they are shorter than the bracteas. *Corolla* about an inch long, pure white, tubular, of three linear segments, imbricating at the margins, scarcely united at the base, their extremity somewhat dilated, patent and obtuse; texture delicate and flaccid. *Stamens* 6, shorter than the corolla, the *filaments* of all that I examined waved and wrinkled; but whether this is a constant character or no, I am unable to say. *Anthers* oblong, yellow. *Germen* rounded, green. *Style* longer than the stamens, but shorter than the corolla, white. *Stigma* white, trifid, segments straight, obtuse and ciliated.

Received at the Liverpool Botanic Garden from the Baron de SHACK at Trinidad, upon the branch of the tree to which it was attached in its native forests, and this being fastened to the back-wall of the stove, and nourished by heat and moisture

alone, produced its truly delicate and beautiful flowers in the month of November of the present year, 1824.

I cannot find the character of any *Tillandsia* that will accord with this plant. At the same time, it must be observed, that the descriptions of most authors being taken from dried specimens, and at a period when comparatively few species were known, must be in a great measure imperfect and unsatisfactory.

The stoves of the gardens, both of Liverpool and Glasgow, are, we believe, peculiarly rich in plants of this family, which have been principally derived from the kindness of the Baron de SHACK. By means of these collections, we trust that it will be in our power to illustrate several species of this curious genus, which till lately had been supposed, like the parasitic *Orchideæ*, to be almost incapable of cultivation in the European gardens.

Fig. 1. Flower seen from the posterior side. Fig. 2, 2. Calyx. Fig. 3. Stamen. Fig. 4. Anther, Fig. 5. Tip of the style and stigma.—*All more or less magnified.*

Myristica officinalis.

(Tree & male & fem. flowers & young fruit.)

d. L. Fielding del.t

Myristica officinalis. (fruit.)

Rev.d L. Guilding del.

155, 156.

MYRISTICA officinalis.

True Nutmeg.

DIŒCIA MONADELPHIA.—Nat. Ord. *MYRISTICÆ*, Br.

Gen. Char.—Masc. *Cal.* 0. *Cor.* campanulata, tri- (rarius 4-) fida. *Filamentum* columnare. *Antheræ* 6–10, connatæ. Fœm. *Cal.* 0. *Cor.* campanulata, tri- (rarius 4-) fida, decidua. *Stylus* 0. *Stigmata* 2. *Drupa* nuce arillata monosperma.—*Willd.*

Myristica *officinalis*; foliis oblongis acuminatis glabris subtus albidis nervis simplicibus pedunculis uni- paucifloris, perianthio urceolato.

M. officinalis, Linn. *Suppl.* p. 265.—Gærtn. *De Fruct.* v. i. p. 194. t. 41. f. 1.
M. moschata, Thunb. *in Act. Holm.* 1782. p. 45.—Willd. *Sp. Pl.* v. iv. p. 869.
M. aromatica, " Lam. *Act. Par.* 1788, p. 155. t. 5, 6, 7."
La Muscade, Sonnerat, *Voy. de la Nouv. Guin.* p. 194. t. 116, 117, 118.
Nux Myristica seu Pala, Rumph. *Herb. Amboin.* v. ii. p. 14. t. 4.

The *trunk* of the Nutmeg Tree rises to a height of about 30 feet, with many spreading branches, and has been compared to that of a Pear-tree: the *bark* greyish-brown, and tolerably smooth, abounding in a yellowish juice. *Leaves* slightly aromatic, almost destitute of stipule, from 5 to 6 inches long, oblong, approaching to elliptical, glabrous, obtuse at the base, acuminate at the extremity, quite entire at the margin, dark green and somewhat shining above, beneath whitish, but neither pulverulent nor downy; nerves parallel, simple, prominent, and of a brownish colour underneath. *Petiols* from half to three quarters of an inch in length, plane above.

Of the *Flowers*; the *male* and *female* are lateral and axillary, upon separate trees; but except by the blossom, it is not possible to distinguish one sex from another *. The exterior, both of the male and female flowers and of the pedicels, is obsoletely clothed with reddish down.

Male Flowers.

Peduncles bearing the flowers in an imperfect kind of *raceme*, of from 3 to 5 single blossoms, about an inch long, sometimes forked; the part that

---

* In Dr Roxburgh's MSS. at the India House, the following curious fact is related: " In the Calcutta Botanic Garden, there are two trees of *Nutmeg*, which are seven years and a half old, and from 10 to 12 feet in height; for the two first years of their blossoming, they had borne only male flowers, but in the months of November and December 1804, they produced only female flowers, and these proved fertile."

bears the pedicels thickened and knotty. *Pedicels* from half an inch to an inch long, slender, bearing at the top a very small, indistinct brownish bractea. *Perianth* single, urceolate, aptly compared by RUMPHIUS to the flower of the *Lily of the Valley*, which it resembles, both in size, hue, and general form: it is of a thick and fleshy texture, of a dingy, pale yellowish colour, cut into three or sometimes four erect, or at most erecto-patent teeth at the extremity. Within are the *Stamens*, collected into one body, rather shorter than the perianth, and without the trace of a pistil. *Filaments*, forming by their union a cylindrical, white, short, column, upon the top of which are the *anthers*, 11 in number, united into a cylindrical body, rounded at the top: each is linear, tapering, with two longitudinal *cells*, and emitting a yellow *pollen*. In the *odour* of the flowers, the fragrance of Musk and the Jessamine are united.

FEMALE FLOWERS.

These, Mr GUILDING observes, may generally be distinguished from the male flowers, by their being solitary on the *peduncle*. The *Perianth* is of the same shape and texture, deciduous: the *pistil* has the *germen* broadly ovate, brownish, tapering upwards, where it is marked with a longitudinal line, but is not furnished with any visible *style*. *Stigma* of two small, white, at length deciduous lobes. A broad greenish band is generally visible near the middle of the germen.

As the *germen* swells, the *Perianth* falls; the former then enlarges, becomes obovate and pendent, till at length it constitutes a nearly spherical *drupe*, of the same size and shape as a pear, but somewhat more attenuated at the base. The *flesh*, which abounds in an astringent juice, is of a yellowish-brown colour, almost white within, 4 or 5 lines in thickness: this opens into two nearly equal valves, and presents to view the *nut*, surrounded by its *arillus* or *Mace*, which soon drops out, when the husk withers.

The *Arillus* (a remarkable prolongation of the *seedstalk*) is a sort of thick membrane, of a texture between horny and fleshy, much laciniated and anastomosing, and enveloping the nut so thickly, that it causes it to be very uneven on the surface. The colour of it, when fresh, is a brilliant scarlet; it envelopes about the whole of the nut, leaving only here and there a few apertures; when dry, it becomes much more horny, of a yellow-brown colour, and very brittle.

Nut broadly ovate, the *shell* very hard, rugged, dark brown, glossy, about half a line thick, pale and smooth within. This immediately envelopes the *Seed* (the *Nutmeg* as it is sold in the shops), which is of an oval or elliptical form, pale brown, quite smooth when first deprived of its shell, but soon becoming shrivelled, so as to have irregular vertical lines or furrows on its surface. Its *cuticle* very thin. Its inner substance or *albumen* is firm, but fleshy, whitish, but so traversed with dark brown veins which abound in oil, as to appear beautifully marbled. In a cavity near the base of the *albumen*, is lodged the small foliaceous

Embryo; which, as I have not had the opportunity of seeing it in a good state myself, I have, in the figure annexed, copied from GÆRTNER.

For the opportunity of offering to the lovers of botany a representation, with details, and a description of this rare and highly interesting plant (which, though existing, I believe, in the stoves of a few gardens in Britain, has blossomed in none), I am indebted to the Reverend LANSDOUNE GUILDING, who sent me an admirable drawing of it, from plants cultivated in the Island of St Vincent's, and also notes, from which I have drawn up much of the present account.

The Natural Order to which the *Nutmeg* belongs, has been, with propriety, separated from the Order *Lauri*, in which JUSSIEU had placed it, and the name of *Myristicæ* given to it by Mr BROWN, in his *Prodromus Fl. Nov. Hollandiæ.* That author further remarks, that it is not allied to any other, but easily distinguishable by the "diœcious flowers, 3-lobed perianth, connate filaments, 1-seeded free ovary, with an erect ovule, and an embryo imbedded in the base of a wrinkled albumen." The only genera known by Mr BROWN to belong to this order, besides *Myristica*, are the *Knema* of LOUREIRO, which has the anthers distinct, and the *Virola* of AUBLET, which has only 3 anthers.

Myristica officinalis, like most plants which are extensively cultivated, seems to be liable to variations, and these principally in the size and form of the fruit. Those trees which produce rounded seeds, have been, by the inhabitants of the Eastern Archipelago, called Male Nutmegs, those bearing the elliptical seeds, the Female; terms which are certainly not allowed by naturalists.

The *Nutmeg Tree* is a native generally of the Molucca Isles, but is confined principally to that group denominated the Islands of Banda, lying in Lat. 4° 30′ S.; and of these islands, ten in number, the Hollanders, who possessed them, restricted the culture of nutmegs to four exclusively, viz. Neyra, Pulo-aya, Pælorona, and Lontoira. The Dutch destroyed them in others of their insular territories; and so jealous were

they lest so precious a tree should be possessed by the inhabitants of other islands not belonging to them, that, in their wars, it was one of their principal motives to destroy them, and in their treaties of peace to stipulate that they should be extirpated. By these illiberal measures, the Hollanders were the exclusive proprietors of the Spice Islands, and had all the monopoly to themselves. I am not aware that the exact quantity has ever been stated that was sold during the most profitable years; but the average proportion of Nutmegs vended in Europe (according to an account inserted in STAVORINUS's Voyage), was estimated at 250,000 lb. annually, besides about 100,000 lb. disposed of in the East Indies. Of Mace, the average has been 90,000 lb. sold in Europe, and 10,000 lb. in the Indies. When the Spice Islands were taken by the British in 1796, the importations by the East India Company into England alone in the two years following their capture, were, of Nutmegs 129,732 lb. and of Mace 286,000 lb. When the crops of spice have been superabundant, and the price likely in consequence to be reduced, the same contracted spirit has actuated the Dutch to destroy immense quantities of the fruit, rather than suffer the market to be lowered. A Hollander who had returned from the Spice Islands, informed Sir WILLIAM TEMPLE, that at one time he saw three piles of Nutmegs burnt, each of which was more than a church of ordinary dimensions could hold. In 1760, M. BEAUMARE witnessed at Amsterdam, near the Admiralty, the destruction by fire of a mass of spice, which was valued at One Million of Livres, and an equal quantity was condemned to be burnt on the day following; and Mr WILCOCKE, the translator of STAVORINUS's Travels, relates, that he himself beheld such a conflagration of Cloves, Nutmegs, and Cinnamon, upon the little island of Newland, near Middleburgh in Zealand, as perfumed the air with their aromatic scent for many miles around. "Although," continues Mr WILCOCKE, "the Dutch have thus, by every means in their power, laboured to counteract the indulgent bounty of Heaven, they have not, in any instance, attained their object; for, exclusive of the impossibility of preventing the spontaneous production of spices in the extensive woods of hundreds of islands,

whereof they hardly know the names or situations, and the constant clandestine trade carried on in that article by the Papuas, Cerammas, Bonginnese, and Chinese, the consumption of, and demand for, cloves have been so much decreased, that the monopoly is no longer worth the expences of retaining it exclusively; and in regard to nutmegs, the Hollanders have been very much the dupes of their own avarice, for, confining as much as possible the cultivation of that spice to the islands of Banda, it was nearly annihilated there in the year 1778, by a violent hurricane and earthquake, and few supplies of any importance were obtained thence for several years afterwards.

The Nutmeg Tree comes into bearing in about eight or ten years, and has ripe fruit upon it at every season; but the harvest of it principally takes place at three periods of the year; in July and August, when the nutmegs are most abundant, but the mace is thinner than in the smaller fruits, which are gathered during November, which is the second time of collecting it; the third harvest takes place in the month of March or beginning of April, when the nuts, as well as the mace, are in the greatest perfection, their number not being so great, and the season being dry. The outer pulpy coat is removed, and afterwards the mace, with a knife. The nuts are placed over a slow fire, when their shell becomes very brittle, and the seeds or nutmegs drop out; these are then soaked in sea-water, and impregnated with lime, a process which answers the double purpose of securing the seeds from the attack of insects, and of destroying their vegetating property. It farther prevents the evaporation of the aroma. The mace is simply dried in the sun, and then sprinkled with salt-water, after which it is fit for exportation.

From the Nutmeg, as well as from the Mace, an essential oil is obtained by distillation, and a less volatile one by expression.

The uses of both parts of the fruit of *Myristica officinalis* are well known, whether in a medicinal or economical point of view. The pulpy coat is preserved with sugar, but not until after its acrid principle has been removed by repeated washings.

Contrary to the narrow and short-sighted policy of the Dutch, it has been the endeavour of the English to disseminate the nutmeg tree in every climate that may appear suited to its growth. In 1798, Mr R. Broff introduced it to Bencoolen in Sumatra, where plants little more than five years old produced perfect fruit; and a short time afterwards, at the suggestion of the same gentleman, Mr Roxburgh, the son of the late Dr Roxburgh of Calcutta, arrived at Amboyna with 22,000 nutmeg plants, which, in a few years, yielded 200,000 lb. weight of nutmegs, and 50,000 lb. of mace.

Again, with respect to our West Indian colonies, I am informed by the Rev. L. Guilding, that this valuable plant was brought to St Vincent's from Cayenne about thirty years since, though not without great difficulty, on account of the extreme jealousy of the inhabitants of that colony. The three trees originally imported have borne fruit for many years, and have attained the height of 20 feet, with a trunk 8–9 inches in diameter. It does not appear, however, that the culture of the nutmeg succeeds so well in the West as in the East Indies. The trees love shade and moisture; few of them, comparatively, prove female; and even the old plants of that kind, though they produce flowers and fruit in all stages, and at all times, yet they do not ripen, upon an average, above forty nutmegs annually.

Tab. I.—Fig. 1. Slight sketch of a tree, to shew its habit. Fig. 2. Branch, with male flowers. Fig. 3. Section of a male flower, to shew the column of stamens. Fig. 4. Column of stamens, young. Fig. 5. Column of stamens, old, the Anthers burst. Fig. 6. Portion of a branch, with a female flower. Fig. 7. Section of a female flower, to shew the pistil. Fig. 8. Young fruit, the perianth having fallen away.

Tab. II.—Fig. 1. Branch, with a ripe fruit in the act of bursting. Fig. 2. Nut, with its Mace. Fig. 3. Nut, having the Mace removed. Fig. 4. Seed, the shell being removed. Fig. 5. Transverse section of the seed. Fig. 6. Portion of the Shell. Fig. 7. Vertical section of the seed. Fig. 8. Embryo.—*All but* Fig. 8. *of the natural size.*

Bulbophyllum barbigerum.

CATTLEYA LABIATA.

Splendid-flowered Catleya.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Perianthium* resupinatum, patens, laciniis subæqualibus. *Columna* libera, semiteres, labello eroso cuculato amplexa. *Anthera* infra-apicilaris opercularis persistens, columnæ apice subulato supertecta 4-locularis; septis completis membranaceis marginatis. *Massæ pollinis* 4, lenticulares, per pares filo elastico granulato in ipsis reflexo connexæ.

Herbæ *parasiticæ (Americæ æquinoctialis);* bulbis *fasciculatis;* foliis *solitariis carnosis enervibus;* floribus *terminalibus geminis grandibus subodoris.*

Cattleya *labiata;* perianthii laciniis exterioribus lineari-lanceolatis acutis, quam interiores triplo angustioribus, labello indiviso.—*Lindl.*

Parasitic. Roots consisting of a few white, simple, flexuose fibres. *Bulbs* 3–4 inches in length, oblong, compressed, deeply furrowed, dark green, clothed at the base with large withered brown scales, at the extremity furnished with a single fleshy, deep green, oblongo-lingulate, obtuse, patent *leaf,* about 6–8 inches long.

From the base of the leaf arises the double *spatha:* outer one large, 4–5 inches long, compressed, cleft on one side, submembranaceous, greenish-brown; inner one very much smaller, and quite included in the outer. *Peduncle* scarcely exserted, terete, glabrous, bearing two very large and splendid flowers, measuring, when fully expanded, almost 6 inches in diameter. *Petals* spreading, of a delicate and yet bright hue, between lilac and rose coloured: the three outer ones equal, linear-lanceolate, the two lateral ones four times as broad, ovate, their margins waved. *Lip* pendent, obovate, its lower margins rolled inwards, the extremity dilated, the edges beautifully notched and waved: its general colour is pale pink, the inside deep purple, forming a large uniform and very bright coloured blotch at the extremity, while the lower portion is picked out with whitish branching veins. *Germen* long, linear, cylindrical, curved, not twisted. *Column* about one-third of the length of the lip, standing out in the same direction, pure white, subsemicylindrical, with two lateral teeth above, and one at the back, which adheres to the back of the anther. *Stigma* heart-shaped, concave. *Anther* subhemisphærical, white, with two brown membranes at the side, 4-celled, and containing four

thin, flat, yellow, broadly obovate *pollen-masses*, connected in pairs by the base of their filaments.

The most splendid, perhaps, of all orchideous plants, which blossomed for the first time in Britain in the stove of my garden in Suffolk, during 1818, the plant having been sent to me by Mr W. SWAINSON during his visit to Brazil.

The individual here delineated is an offset from the parent plant just mentioned, and it flowered at the Glasgow Botanic Garden in November 1824, continuing in great beauty for several days. The agreeable odour which Mr LINDLEY mentions as having been perceptibly exhaled by the flowers of the specimens from which his figure in the *Collectanea Botanica* was taken, was not evident in the blossoms of the present individual, although Mr CATTLEY's plant was derived from the same source.

The genus *Cattleya* is clearly defined by Mr LINDLEY in his *Collectanea Botanica*, where an excellent representation is also given from the pencil of Mr CURTIS. A second species of the genus is the *Cattleya Loddigesii* of LINDLEY, (*Epidendrum violaceum* of LODDIGES).

Fig. 1. Side view of the column of fructification. Fig. 2. Front view of the same. Fig. 3. Side view of the anther. Fig. 4. Under side of the anther, shewing how the pollen-masses lie, and are connected by the base of their filaments. Fig. 5. One pair of pollen-masses, removed from the cells. Fig. 6. Single pollen-mass. Fig. 7. Under side of the anther-case, shewing the four cells.—*All magnified.*

Stelis minuantha

F. Curtis Lith: Imp.

STETIS MICRANTHA.

Small-flowered Stetis.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Labellum* petalis interioribus ramis subfornicatis conforme. *Petala 3* exteriora basi connata. *Massæ pollinis* duæ.—*Br.*

Stetis *micrantha;* caule elongato unifolio, folio lato-lanceolato, floribus spicatis bifariam insertis subsecundis acute-trigonis.

S. micrantha, Swartz, *Fl. Ind. Occ.* p. 1553.—Sw. *De Orchid.* p 98.—Smith, *Exot. Fl.* p. 75.—Willd. *Sp. Pl.* v. iv. p. 139.—Br. *in Hort. Kew.* ed. 2. v. 5. p. 210.

Epidendrum micranthum, Sw. *Prodr.* p. 125.

Parasitic. Roots much branched, throwing up several *stems,* which are naked, or only invested with the remains of one or two sheathing membranes, to the height of 4–5 inches, there terminated by an oblongo-lanceolate, obtuse, fleshy leaf, about 4 inches in length, which is jointed, as it were, upon the top of the stalk.

From the somewhat sheathing base of this *leaf,* arises the pedunculated simple *spike,* which is about 5 inches long, having flowers from the top to within an inch of the base, each subtended by a small lanceolate bractea.

The *flowers* are very small, springing in regular alternation from two opposite sides of the stem, but all pointing one way; when unexpanded forming an exactly trigonal bud. When the outer petals are closed, the flowers incline, and the lip is downwards; when expanded, the flowers raise themselves, become slightly untwisted, and the lip is uppermost. The 3 outer *segments* of the *perianth* are broadly ovato-cordate, plane, or very slightly concave, united at the base, pale green, faintly but coarsely reticulated, with a slightly elevated line down the centre of the back, but by no means such as to make the flower, when in bud, appear hexagonal. The 3 *inner petals,* including the lip, are also exactly alike in shape and size, very small, deep purple, broadly ovate, truncate, deeply keeled at the back, generally standing forward, so as partly to cover the organs of fructification. *Column* short, deep purple, angled on each side at the top, and with a small process *(proscollum)* in front. *Anther* hemispherical, caducous, imperfectly 2-celled, deep purple, enclosing 2 obovate, yellow, waxy *pollen-masses,* which are united at the base by a small gland. *Germen* oblongo-clavate, sessile, ribbed.

A very graceful, though minute plant, belonging to the family of *Orchideæ*, and blossoming in the stove, when treated in the same manner with other parasitics, in the month of November. It is a native of Jamaica, and has been long known in our gardens, Sir J. E. SMITH having given an excellent figure and description of it from an individual that flowered at White Knights, in the possession of the Marquis of BLANDFORD, nearly twenty years ago.

The *Stetis ophioglossoides* of LODDIGES's Botanical Cabinet, t. 442. appears to me hardly distinguishable from this species, except by its large and brown flowers.

Fig. 1. Bud, in its natural position. Fig. 2. The same, forced open, to shew the parts of the flower. Fig. 3. Flower naturally expanded. Fig. 4. Column, from which the anther is removed. Fig. 5, 5. Lateral inner petals. Fig. 6. Lower inner petal or labellum. Fig. 7. Anther-case. Fig. 8. Pollen-mass.—*All more or less magnified.*

Schotia latifolia.

J. Swan Sculpt. Glasgow

SCHOTIA LATIFOLIA.

Broad-leaved Schotia.

DECANDRIA MONOGYNIA.—NAT. ORD. *LEGUMINOSÆ.*

GEN. CHAR.—*Calyx* turbinatus, semi- (quadri-) quinque-fidus, subæqualis. *Petala* 5, nunc inæqualia ad orem calycis inserta. *Germen* pedicellatum, marginatum. *Stylus* filiformis. *Stigma* obtusum. *Legumen* magnum, latum, compressum.

Schotia *latifolia*; foliolis tri-quadrijugis obovatis obtusis, floribus monadelphis tetrapetalis, petalis duobus minoribus.

S. latifolia, JACQ. *Fragm.* p. 23. t. 15. f. 14.

An upright *shrub*, with alternate, zig-zag, terete, glabrous, brownish, scarred *branches*. *Leaves* abruptly pinnated, common petiole convex on both sides, slightly winged. *Leaflets* 3 or generally 4 pairs, 2 inches long, opposite, obovate, rather obtuse, with a small mucro, somewhat coriaceous, shining, entire, veined, unequal at the base, of a dark, green colour. *Stipules* minute, almost subulate, deciduous.

Panicle terminal, rather large, branches subsimple, alternate, slightly pubescent. *Flowers* crowded on the branches, especially towards their extremity, nearly sessile. *Bracteas* two small, opposite, deciduous scales, at the base of the short pedicel. *Calyx* somewhat turbinate, green; its base or tube fleshy: *limb* cut into 4, equal, at length spreading, ovate, obtuse segments. *Corolla* of 5 *petals*, inserted at the mouth of the tube, around a small border or ring, patent, more or less recurved, pale rose-coloured; the three superior ones ligulate, the two inferior much smaller and linear. Of these 5 *petals*, the uppermost one is opposite to one of the calycine segments, the rest are alternate with the segments. *Stamens* inserted at the mouth of the tube, much longer than the corolla, erect, 9, rarely 10, united at the base into a tube. *Anthers* oblong, 2-celled, inserted by the centre of the back to the top of the filament, yellow. *Pistil* pedicellate, inserted into the upper side of the tube within, and decurrent with it. *Germen* linear, compressed, margined, the margin waved, containing 5–6 ovules. *Style* as long as the stamens, curved. *Stigma* obtuse. *Legumen* 4–5 inches long, and two inches broad, elliptical, oblong, compressed, pedicellate (?) with a narrow border of a texture between coriaceous and woody, brown, opening with 2 valves, and presenting, in each valve, 3 or 4 large depressions for the reception of the *seeds*, and as many smaller ones, which have probably been occu-

pied by abortive ones. *Receptacle* of the seeds large, coriaceous, compressed, almost scymitar-shaped. *Perfect seeds* about 4 in number, broadly obovate, compressed, brown, shining, half immersed in the thickened bright yellow cup-shaped *arillus*.

The seeds of this plant, along with many others marked Caffrarian seeds, were sent to the Botanic Garden at Edinburgh by Dr HOPE; and Dr GRAHAM, judging from the appearance of the foliage of this individual, as compared with that of other plants which had been received under the name of *Schotia*, presumed it to belong to that genus. Mr BURCHELL, the celebrated traveller in Africa, has confirmed this suspicion, and pronounced this species to be the *S. latifolia* of JACQUIN'S *Fragmenta*, a figure which I have not seen.

There is so little resemblance either in the foliage or flowers of *S. latifolia* to those of the better known *Schotia speciosa* and *tamarindifolia*, that I hesitated about continuing it in that genus; and of the perfect fruit of any but the present species I am quite ignorant. Mr BURCHELL, however, who gathered this plant in Southern Africa, assures me that its fruit accords with that of its congener *S. speciosa*. The seed-vessel here represented is from a fine specimen in the possession of Dr GRAHAM, who further favoured me with many remarks made from the living plant in the garden.

It seems to require the heat of the stove, and flowered in the month of May 1824.

Fig. 1. Flower. Fig. 2. The same, deprived of the stamens. Fig. 3. Calyx. Fig. 4. Anther. Fig. 5. Section of the calyx, to shew the insertion of the stalk of the germen. Fig. 6. Section of the germen. Fig. 7. Legumen. Fig. 8. Legumen from which one valve has been removed, shewing the seeds and seminal receptacle.

1

6

8

2

7

9

Mammea umbellata

J. Swan. Calcutta

MARCGRAVIA UMBELLATA.

Climbing Marcgravia.

POLYANDRIA MONOGYNIA.—NAT. ORD. *MARGRAVIACEÆ.*

GEN. CHAR.—*Corolla* monopetala, calyptriformis, integra secedens. *Calyx* quinquefidus, segmentis imbricatis basi subcaliculatis. *Bacca* sicca, octolocularis. *Semina* pulpa nidulantia.

Marcgravia *umbellata;* foliis sessilibus ovato-ellipticis acutis vix venosis, sterilium ramorum ovatis obtusis, pedunculis umbellatis sæpe tuberculosis, bracteis cuculliformibus.—*DC.*

M. umbellata, LINN. *Sp. Pl.* p. 719.—DE CAND. *Prodr.* v. i. p. 566.—JACQ. *Amer.* p. 156. t. 96.
M. scandens, BROWN, *Jam.* t. 26.

This curious plant is frequent in the woods of Jamaica; and appears in such different forms, that it has been often mistaken for different plants, in the various stages of its growth. It is but a slender weakly climber at first, and, as it rises, throws out a few leaves, somewhat of the form of a heart, on both sides; these are sustained by very short footstalks, and stand always opposite to a number of slender radical fibres, whereby it sticks and grows to its supporter. By these means, the plant continues its growth, until it gains the top, and lays its trunk more commodiously over some of the larger branches of the tree; then it begins to strengthen, and casts out many slender, dependent, and subdivided branches from the upper parts. But as it increases at the top, the stem grows thicker, separates from the supporter, throws off its now useless leaves and roots, and appears a strong withy shrub, whose trunk is frequently no less than 4 or 5 inches in diameter.

The ultimate and pendent *branches* are more or less tuberculated, terete, having alternate and distichous leaves, 3–5 inches in length, elliptical, rounded at the base, acute at the extremity, coriaceous, entire, more or less distinctly nerved, glabrous, on very short footstalks.

Umbel simple, consisting of several pedicellate flowers, and in the centre from 3 to 5 abortive flowerstalks, which assume a remarkable form, clavate, much thickened, hollow, with an opening at the insertion upon the pedicels: often bearing a flower or an abortive bud near the extremity. *Pedicels* 2–3 inches long, thickened upwards, and more or less tuberculated on the upper side, curved upwards at the extremity. *Calyx* of 5 rounded, short, imbricated, erect lobes, with 2 or 3 small scales at the base. *Corolla* of one piece, conical, obtuse, resembling the calyptra or rather the lid of some moss, but large, and of a coriaceous texture, so that it may very readily be mistaken, when it is in flower, for a capsule. *Stamens* inserted on the receptacle, and distinct to the base, 16 in number upon those flowers which I examined. *Filaments* subulate; *Anthers* linear, oblong, 2-celled, opening anteriorly. *Germen* ovate, shortly but very obtusely attenuated, marked with vertical shallow striæ, formed by the pressure of the stamens. *Style* none. *Stigma* obtuse, slightly impressed in the centre. This germen has evidently 8 cells, the partitions scarcely meeting in the centre. *Receptacle* central, from which there diverge 8 plates, 2 of them passing into each cell, upon

them are placed the ovules. *Berry* rounded, with a short blunt point, nearly as large as a cherry: of a rather dry, coriaceous texture, dotted: within, the cells appear to contain a pulpy mass, the receptacular plates being apparently dissolved, and the pulp filled with minute, subreniform, reddish-brown *seeds*.

A very singular and interesting plant, of which I have made the drawings and my description from excellent specimens, both dried and preserved in spirits, which were sent me by the Reverend L. GUILDING from St Vincent's. Of this island, as well as others of the West Indies, and upon the continent of South America, it is a native, climbing to a great height upon the trees, and bearing a profusion of large umbels, which, especially when seen in flower, displaying their yellow stamens, may not unaptly be compared to many Candelabras. Scarcely any one who had not seen the sterile shoots when in a growing state, attached to the rest of the plant, could suspect them to belong to the same individual, so totally different are the leaves both in their shape and texture: they are indeed exactly what are described by WILLDENOW as characteristic of his *Marcgravia picta*, which is probably the same species as the present. A third species is the *M. coriacea* of VAHL, with the leaves veinless, and the pedicels whorled. But I must here observe, that the foliage in this individual varies with regard to the distinctness of its nerves, and that the pedicels are not, strictly speaking, umbellate; they do not all rise from a common point at the extremity of the stem, but are somewhat verticillate, having their receptacle lengthened out. A fourth species, *M. spiciflora* of JUSSIEU, is a very distinct plant, with the pedicels spiked.

JUSSIEU, in a valuable memoir on this genus, published in the 14th volume of the Annales du Museum, suggested the propriety of forming a distinct order, containing *Marcgravia*, *Antholoma* of LABILLARDIERE, and *Norantea* of AUBLET; and DE CANDOLLE, in his Prodromus, adding *Ruyschia* of JACQUIN (*Simarouba*, AUBLET) to the number, has constituted the Order *Marcgraviaceæ*, and placed it next to *Guttiferæ*.

Introduced into our gardens in the year 1792, according to Hortus Kewensis; but it appears never to have flowered in our stoves.

Fig. 1. Fertile branch. Fig. 2. Sterile branch. Fig. 3. Flower, from which the corolla, Fig. 4. is removed. Fig. 5. Stamen. Fig. 6. Pistil. Fig. 7. Section of the germen. Fig. 8. Fruit. Fig. 9. Seeds.—*All but* Figs. 1, 2, & 8. *more or less magnified.*

Cuphea parviflora

CUPHEA PARVIFLORA.

Small-flowered Cuphea.

DODECANDRIA MONOGYNIA.—NAT. ORD. *SALICARIÆ.*

GEN. CHAR.—*Calyx* 6–12 dentatus, basi hinc gibbosa. *Petala* 6, calyci inserta. *Capsula* 1-locularis, hinc cum calyce longitudinaliter dehiscens. —BR. *in Hort. Kew.*

Cuphea *parviflora;* suffruticosa, caule erecto pubescente, foliis elliptico-lanceolatis basi in petiolum brevem attenuatis subintegerrimis marginibus subciliatis, floribus racemosis terminalibus.

Stem, in the present plant, scarcely exceeding 8 inches in height, suffruticose, and, as well as the numerous branches, glanduloso-pubescent. *Leaves* opposite, elliptico-lanceolate, obtuse, scarcely toothed at the margins, below attenuated into a short petiole, and, when seen under a lens, appearing obscurely ciliated. *Flowers* in small racemes at the extremity of the branches, with one or two small leaf-like bracteas at the base of each raceme. *Petiole* twice or thrice as long as the calyx. *Calyx* cylindrical, oblique, gibbous at the base on one side, slightly spreading at the mouth, and there furnished with 6 red teeth: it is of a pale green colour, marked with 12 elevated dark green striæ, within woolly near the mouth. *Petals* 6, nearly erect, lanceolate, small, inserted by their minute claws upon the inner margin of the calyx, alternating with the teeth, purple, subundulated. *Stamens* very small, 12 in number, inserted within the calyx above the middle, and apparently on the same line, two on the upper or gibbous side abortive. *Filaments* subulate, red, hairy below. *Anthers* 2-celled, fixed by their backs. *Pistil* single, as long as the calyx. *Germen* cylindrical, with a large roundish gland or nectary in the front at the base; within 1-celled, having the ovules attached to a central receptacle. *Style* filiform. *Stigma* small, capitate.

Introduced to the Botanic Garden of Glasgow by C. S. PARKER, Esq. from Demerara, whence he sent seeds in 1824, which flowered in the stove during the month of October of the same year.

It seems most nearly to resemble the *Cuphea decandra* of Hortus Kewensis, ed. 2. (*Lythrum ciliatum.* WILLD.), a native of Jamaica; but which is a decandrous plant, and appears from the description of SWARTZ to attain to a much larger size than the present species.

3

4

5

Polypodium pertusum

POLYPODIUM PERTUSUM.

Narrow-leaved Starry Polypody.

CRYPTOGAMIA FILICES.—Nat. Ord. *FILICES.*

Gen. Char.—*Sori* subrotundi, sparsi. *Indusia* nulla.

Polypodium *pertusum*; frondibus simplicibus carnosis enervibus utrinque squamulis stellatis sparsis, sterilibus oblongo-lanceolatis basi attenuatis, fertilibus lineari-lanceolatis dimidio superiore fructificante angustiore, soris ovalibus lana densissima e squamulis stellatis immersa.

P. pertusum, Roxburgh's MSS. *with a figure.*

Caudex minute, scaly, creeping, throwing out several branched and downy roots. *Fronds* erect, of a thick and fleshy substance, nerveless, dark green above, and channelled in the centre, with a prominent midrib beneath, thickened at the margin on both sides, beset with exceedingly minute, scattered, beautifully stellated *scales*, which are invisible to the naked eye, at the base gradually tapering into glabrous, grooved *stipes*, about an inch long: *sterile fronds* 2–4 inches in length, oblong-lanceolate, obtuse; *fertile ones* 6 inches long, linear-lanceolate.

Fructification produced at the back of the upper half of the frond, imbedded in, and at first wholly concealed by, a dense whitish woolly mass, which covers the whole back of the frond as far as the fructification extends, and is composed of an infinite number of the same kind of stellated scales as are scattered so sparingly over the rest of the frond. *Sori* oval, consisting of about 8–12 spherical, pedicellated annulated *capsules*.

Introduced from China by the Horticultural Society of London, and presented by that truly liberal institution to the Botanic Garden of Liverpool, where it has flourished, and where it bore its singular fructification in the month of November.

Stellated scales are found upon not a few of the simple fronded *Polypodia:* in this individual, however, there is a dense mass of them upon that portion of the frond which produces the fructification; the clusters of capsules at first lie

concealed in it, but afterwards they appear through those apertures in this mass, which have given rise to the specific name applied to this individual by the late Dr ROXBURGH. Specimens of Dr ROXBURGH's plant, gathered in the Delta of the Ganges, I possess through the liberality of Dr WALLICH; and I find them to accord with the individual here figured, except that the back of the fertile frond, below the fructified part, is more scaly. Dr WALLICH seems to consider the *P. pertusum* of ROXBURGH as the same with *P. adnascens* of SWARTZ, *Synopsis Filic.* p. 2. f. 2. That plant, however, has much shorter and almost ovate sterile fronds, and fertile fronds more linear and much narrower in their lower half.

Polypodium pertusum turns almost black in drying.

Fig. 1. Portion of the frond, shewing the fructification. Fig. 2. One of the scales which surround the fructification. Fig. 3. Cluster of capsules, with some of its surrounding scales. Fig. 4. Capsules, separated from the cluster. Fig. 5. Scale from the sterile frond.—*All more or less magnified.*

Gentiana amarella. J. Swan Sculp.

CUNILA COCCINEA.

Scarlet-flowered Cunila.

DIDYNAMIA GYMNOSPERMIA (DIANDRIA MONOGYNIA, *Linn.*).—
NAT. ORD. *LABIATÆ.*

GEN. CHAR.—*Calyx* cylindraceus, 5-dentatus, fauce villosus. *Corolla* ringens; labio superiore erecto, plano, emarginato. *Stamina* 2, sterilia.—*Pers.*

Cunila *coccinea*; foliis obovatis integerrimis glabris, corollis pubescentibus.

C. coccinea, NUTT. MSS.

A slender, glabrous, twiggy plant, of about 18 inches in height, with branches scarcely quadrangular. *Leaves* rather distantly placed, in opposite pairs, obovate, very obtuse, scarcely petiolated, glabrous, entire, obscurely 3-nerved, dotted, especially beneath.

Flowers springing from the axils of the upper leaves, solitary, or two together from a branching peduncle, each pedicel very short, and with a small linear bractea at its base. *Calyx* subcylindrical, tapering slightly towards the base, enlarged towards the extremity, with 10 striæ, nearly glabrous, 2-lipped; upper lip with 3 small teeth, lower one with 2 larger ones, all erect; *throat* with a circle of white hairs. *Corolla* thrice the length of the calyx, club-shaped, pubescent, of a brilliant scarlet colour, yellowish beneath, 2-lipped, upper lip nearly plane, emarginate, lower one trifid, the teeth nearly equal. *Stamens* 4, didynamous, as long as the corolla; *anthers* all fertile. *Pistil: Germens* 4, situated upon a large green gland. *Style* filiform, much longer than the corolla. *Stigma* bifid, its divisions unequal.

"*Cunila coccinea,*" Mr H. SHEPHERD thus wrote to me, when he communicated the specimens from which the annexed design was made, "was so named by Mr NUTTALL, from a dried specimen brought by Mr WARE to Philadelphia from Florida. Seeds taken from that plant are what I have now raised and brought to flower. I believe Mr NUTTALL never saw it in a living state."

This is, indeed, a beautiful and graceful plant, having flowers as brightly coloured as those of *Salvia speciosa*, or, what they still more resemble, as those of *Columnea scandens*. It only requires the protection of a greenhouse.

Most authors have arranged the genus *Cunila* in the Class *Diandria*; and PERSOON, who refers it to *Didynamia*, describes it as having two sterile anthers. If the present individual be a true *Cunila*, and it seems to possess all the other characteristics of the genus, then that mark is not constant, for all its four anthers were equal in size, and loaded with pale yellow pollen.

Fig. 1. Calyx. Fig. 2. Corolla. Fig. 3. Calyx, cut open, to shew the circle of hairs at the throat, the germens and the style. Fig. 4. Back view; and, Fig. 5. Front view of an anther. Fig. 6. Back view of a leaf.—*All more or less magnified.*

Guzmannia tricolor

GUSMANNIA TRICOLOR.

Three-coloured Gusmannia.

HEXANDRIA MONOGYNIA.—NAT. ORD. *BROMELIÆ.*

GEN. CHAR.—*Calyx* inferus, 3-partitus, laciniis convolutis. *Petala* in tubum convoluta (atque coalita). *Antheræ* in cylindrum coalitæ. *Capsula* trilocularis. *Semina* numerosa, oblonga, nuda.—*Pers.*

Gusmannia *tricolor*.

Gusmannia *tricolor*, RUIZ et PAVON, *Fl. Peruv.* v. iii. p. 38. t. 261.—PERS. *Syn.* v. i. p. 344.—LODD. *Bot. Cab.* t. 462.—LINDL. *Coll. Bot.* t. 8.

Pourrettia sympaganthera, " RUIZ et PAVON, *Syst.* p. 82."

Habit and mode of growth of a *Tillandsia* or *Bromelia;* everywhere glabrous. *Leaves* radical, linear-ensiform, broad and involute at the base, plane and acute at the extremity, faintly striated, quite entire at the margin, from 1 to 2 feet long.

Scape of about the same length as the leaves, clothed below with lanceolate, acuminate, very pale and large sterile *bracteas*, convolute at the margins, above having broadly ovate, acute floriferous concave green bracteas, streaked with red; the uppermost of all bright orange-red.

Flowers placed singly in each bractea, and shorter than it, about an inch long. *Calyx* deeply cut into 3 linear oblong, pale yellow, green, rigid, imbricated, upright segments. *Corolla* white, of 3 *petals*, their long claws united into a tube of a very delicate texture, the lamina ovate, erect, very rigid and cartilaginous, with the margin imbricating. *Stamens* 6, syngenesious. *Filaments* attached to the summit of the tube, and shorter than the corolla, below apparently decurrent with it, broad, white, cohering by their margins. *Anthers* oblong, at first yellowish, afterwards pale bluish-grey, formed of two cells, which open longitudinally. *Pistil* superior. *Germen* oblongo-ovate, tapering into the linear filiform white *Style*, which is terminated by the trifid small *Stigma*. The *Germen* has three cells, each cell containing a considerable number of *seeds*, attached to a receptacle in the inner angle.

* The No. 163. has occurred twice on the plates, by a mistake, which we did not discover till it was too late to be able to rectify it.

The plant from which the accompanying drawing has been taken, was brought in the early part of the year (1824) to the Liverpool Botanic Garden from Jamaica, by Mr Wiles. Ruiz and Pavon, who first described it, discovered it in Peru. As a genus belonging to the Natural Order *Bromeliæ*, it is admirably characterized by its superior germen, and by its anthers, as well as corolla, cohering, so as to form a tube; the arrangement of its anthers thus exactly resembling that which prevails in the Clas *Syngenesia*.

It blossomed in the stove in the month of November.

Fig. 1. Flower. Fig. 2. Flower deprived of its calyx. Fig. 3. Anther seen from without. Fig. 4. Tube of the Anther spread open, and seen from without. Fig. 5. The same seen from within. Fig. 6. Inner view of a single anther. Fig. 7. Pistil. Fig. 8. Section of a germen.—*All more or less highly magnified.*

Peperomia reniformis

J. Swan Sc.

PEPEROMIA RENIFORMIS.

Kidney leaved Peperomia.

DIANDRIA MONOGYNIA.—NAT. ORD. *PIPERACEÆ.*

GEN. CHAR.—*Spadix* cylindraceus, floribus undique tectus. *Stamina* duo. *Stigma* indivisum. *Bacca* monosperma. *Caulis* herbaceus.—*Humb.*

Peperomia *reniformis*; subpubescens, caule repente valde ramoso, foliis alternis cordato-reniformibus carnosis subtrinervibus longe petiolatis, pedunculis solitariis oppositifoliis medio bracteatis, spicis cylindraceis brevibus.

Stem creeping, cylindrical, very much branched, pubescent, throwing out numerous ramified fibres from beneath the point of insertion of the leaves. *Leaves* numerous, alternate, between cordate and reniform, fleshy, slightly pubescent and dotted when seen under a microscope, obscurely 3- or sometimes 5-nerved, petiolated; *petiole* longer than the leaf, grooved on the upper side, pubescent at the base.

Peduncles opposite the leaves numerous, solitary, scarcely an inch long, cylindrical, pubescent, having near the middle a small linear *bractea*. *Spike* hardly above half an inch in length, cylindrical. *Flowers* very minute. *Scale* subquadrangular, peltate. *Pistil* ovate. *Anthers* 2. *Fruit* ovate, with the *style* much attenuated and persistent.

Sent by the Reverend L. GUILDING from the Island of St Vincent's. I can find no description which coincides with it; but it comes very near to the *Piper bracteatum* of THOMPSON in the *Linnean Transactions*, v. ix. p. 203. t. 21. f. 2. That species, however, has the leaves with a decided acumen; whereas those of the present individual are remarkably obtuse.

Fig. 1. Flower. Fig. 2. Spike of fruit. Fig. 3. Single Fruit. Fig. 4. Leaf. —*All more or less magnified.*

Peperomia ovalifolia

PEPEROMIA OVALIFOLIA.

Oval-leaved Peperomia.

DIANDRIA MONOGYNIA.—NAT. ORD. *PIPERACEÆ.*

GEN. CHAR.—*Spadix* cylindraceus, floribus undique tectus. *Stamina* duo. *Stigma* indivisum. *Bacca* monosperma. *Caulis* herbaceus.—*Humb. et Kunth.*

Peperomia *ovalifolia*; caule repente tereti pubescente, foliis breviter petiolatis, oppositis terniis quaternisque ovalibus retusis nervosis punctulatis vix pubescentibus, spicis terminalibus solitariis vel aggregatis longis curvatis.

Stem creeping, 8–10 inches in length, terete, pubescent, slightly branched, throwing out roots from beneath the point of insertion of the leaves. *Leaves* distant upon the stem, opposite, or more usually ternate, sometimes quaternate, borne upon short pubescent petioles, oval, retuse, thick and fleshy, 3-nerved, scarcely pubescent, but ciliated at the margin, minutely dotted on the surface. *Spike* 3–5 inches long, cylindrical, tapering, slender, upon footstalks, which are about 2 inches in length, terminal, solitary, 3–4 together. *Flowers* minute, compact. *Scale* subquadrate, peltate. *Germen* ovate, tapering upwards. *Stigma* depressed. *Anthers* 2, yellow. *Fruit* a 1-seeded, spherical berry, acuminated at the extremity.

This, as far as I can judge from descriptions, is another new species of *Peperomia*, communicated to me from the Island of St Vincent's by my excellent and valuable correspondent, the Reverend L. GUILDING. It seems a well marked species, and constant in its character of having oval retuse leaves in all the specimens which I have received, both dried and in spirits.

Fig. 1. Leaf. Fig. 2. Flowers. Fig. 3. Berry. Fig. 4. Berry cut open, to shew the seed, and the situation of the Embryo at the top of the copious albumen.—*All more or less magnified.*

1

2

3

. Thunbergia angulata

THUNBERGIA ANGULATA.

Small-flowered Thunbergia.

DIDYNAMIA ANGIOSPERMIA.—Nat. Ord. *ACANTHI.*

Gen. Char.—*Cal.* duplex: *ext.* diphyllus; *int.* subduodecim-dentatus. *Cor.* campanulata. *Capsula* rostrata, bilocularis.

Thunbergia *angulata*; foliis lato-cordatis subacuminatis basi angulatis, corollæ tubo ventricoso limbum excedente, caule scandente.

Thunbergia angulata, Helsinborg et Boyer, MSS.

A slender, graceful climbing plant, with glabrous stems and altogether the habit of *Maurandia antirrhinifolia*. *Leaves* upon footstalks longer than themselves, opposite, broadly cordate, glabrous, somewhat acuminated, angulated at the base, with three principal and several smaller branching and anastomosing nerves. The bases of the petioles are connected by a short ciliated pair of stipules.

Flowers axillary, solitary, opposite, upon long peduncles. *Exterior calyx* of 2 rather large, ovate, opposite, appressed, 1-nerved leaflets, ciliated on the nerve and at the margins. *Inner calyx* small, of one piece, with many nearly equal, short linear segments. *Corolla* nearly thrice as long as the outer calyx, about an inch long, rather tubular than campanulate: *tube* swelling on the under side near the middle: the mouth open, the limb cut into 5 shortish, obtusely rounded, spreading, or even recurved segments. *Stamens* included. *Anthers* large, sagittate, 2-celled, their margins fringed with long hairs. *Germen* ovate. *Style* longer than the anthers. *Stigma* bilabiate *.

Whilst the Continent boasts of her magnificent public institutions, endowed and supported by the governments of the various countries to which they belong, it is the peculiar boast of Britain that so much is here done by the liberality and zeal of private individuals. What is so often said of the collections in the fine arts of this country, may with equal truth be as-

* The capsule of this plant will be found figured and described at t. 177. of this work, under *Th. alata*.

serted of those in the various departments of science: they are scattered through the island, and dignify, at the same time that they adorn, the residences of our men of rank and fortune. Amongst those who have devoted their attention to horticulture, and to the rearing of rare exotic plants, none has done so with greater success than our inestimable friend ROBERT BARCLAY, Esq. of Buryhill, Surrey. In the midst of a country remarkable for its natural beauties, and the profusion of its own vegetable productions, he has established a garden that already possesses a most choice collection of extra European vegetables, and in which I have lately seen, with peculiar satisfaction, a great number sent from Madagascar and the opposite coast of Africa and from the Mauritius, by CHARLES TELFAIR, Esq. who has been long resident in the last mentioned country.

The African and Madagascar seeds were gathered by Messrs HELSINBORG and BOYER. From the latter of these collections were raised the *Thunbergia* here figured, to which we have prefixed the MS. name of its discoverers, and of which the drawing was made in Mr BARCLAY's stove by an ingenious artist Mr DUNCOMBE, in the month of May 1825.

The province in Madagascar where this plant is found, is *Emirne*, and the name there given to it is *Hurnbi*. The blossoms are produced in abundance, and they continue expanded about three days; but no seeds have been as yet formed.

The nearest affinity of this plant is unquestionably with the *Th. fragrans:* but here the leaves are much broader, the flowers much smaller, far longer in the tube, and different in colour.

Fig. 1. Flower, with a leaflet of the outer calyx thrown back, to shew the inner calyx. Fig. 2. Anther. Fig. 3. Stigma.

1

2

3

4

5

6

7

8

9

10

11

Cassytha filiformis

CASSYTHA FILIFORMIS.

Filiform Cassytha.

ENEANDRIA MONOGYNIA.—NAT. ORD. *LAURINEÆ.*

GEN. CHAR.—*Perianthium* sexfidum, tubo brevissimo, limbo laciniis tribus exterioribus nanis. *Stamina* duodecim, duplice ordine, interiorum tria laciniis interioribus opposita sterilia; tria reliqua basi biglandulosa. *Antheræ* biloculares. *Pericarpium* tectum tubo perianthii aucto, baccato, apice pervio, laciniisque coronatum.

Suffrutices *vel* Herbæ *aphyllæ, volubiles, parasiticæ.* Flores *spicati, tribracteati, bracteis parvis persistentibus.*—BR.

Cassytha *filiformis;* caulibus glabris pedunculis pubescentibus pauciforis.

C. filiformis, LINN. *Sp. Pl.* p. 530.—WILLD. *Sp. Pl.* v. ii. p. 487.

Plant with very much the habit of a *Cuscuta;* the *stems* filiform, climbing and twisting around other plants, and around itself, scarcely branched, quite glabrous, deriving nourishment from the individual to which it is attached by means of a few small roots or suckers; entirely destitute of leaves.

Peduncles distantly placed, alternate, generally broader upwards, with two or three minute scales at the base, and a few remote flowers. *Bracteas* of three minute roundish scales, closely appressed to the base of the perianth, and alternating with its outer segments, the edges slightly ciliated. *Perianth* of one piece, at first not apparently tubular at the base, deeply divided into six segments, three outer and three inner; the former very small, much resembling in shape, and scarcely exceeding in length, the bracteas; ciliated at the margin, appressed to the inner segments: inner ones much longer, ovate, concave, fleshy. *Stamens* twelve, in two rows: the six outer ones the largest, but alternately smaller (the smaller ones opposite to the petals), their *anthers* opening inwards: inner ones placed face to face with the outer; of these, *three* alternate are perfect, but less than the smaller ones of the external row, their anthers opening externally, and having a pair of small glands at their base, one on each side, the three remaining ones very minute, abortive. *Filaments* clavate, compressed. *Anthers* of two distinct cells, imbedded in the substance of the filaments, and opening with valves, as in the genera *Laurus* and *Berberis*. *Germen* ovato-globose. *Style* tapering. *Stigma* obtuse.

Fruit a whitish *Drupe*, the fleshy coat being formed by the thickened and much enlarged tube of the perianth; having at its base the three mi-

nute persistent bracteas, and crowned at the summit with the six unequal segments of the perianth. *Nut* globose, with a very short acumen. *Albumen* none. *Embryo* occupying the whole cavity of the cell, globose. *Cotyledons* very large, hemispherical, subcarnose: *radicle* superior, inclosed within the substance of the base of the cotyledons. *Plumule* conspicuous.

A singular botanical production, running over other plants with its long and leafless stems, and frequent in the West Indies. Our specimens were sent, both dried and in spirits, together with a coloured drawing, from the Island of St Vincent's, by the Reverend LANSDOWN GUILDING.

It does not appear to have been ever cultivated in the stoves in England; but JACQUIN took with him seeds of it from the West Indies, and sowed them in the hot-houses of Vienna, where they vegetated and flourished, being planted in a common soil. After the stems, by their radicular tubercles, had become attached to some neighbouring shrub, the parent individuals ceased to derive nourishment from the earth, and depended solely on the plants to which they had fixed themselves.

In GÆRTNER's description and figure of the *Cassytha filiformis*, he has mistaken the cotyledons for albumen. JUSSIEU had the same idea of that part, and was hence led to suppose that the plant could not belong to the Order *Laurineæ*, notwithstanding the great resemblance of every other portion of the flower. The learned and acute BROWN detected this error in GÆRTNER, and satisfactorily shewed, in spite of the considerable dissimilarity of habit, that it could not with propriety be separated from that family.

Mr BROWN has described four species of this genus as natives of New Holland.

Fig. 1. Flower. Fig. 2. The same, with the perianth spread open. Fig. 3. The stamen which alternates with the segments of the perianth. Fig. 4. The stamen which is opposite to this. Fig. 5. The stamen which is opposite to the segments of the perianth. Fig. 6. The abortive stamen which is opposite to it. Fig. 7. Pistil. Fig. 8. Drupe. Fig. 9. The Nut taken from the drupe. Fig. 10. Nut opened, with part of the cotyledon removed, to shew the radicle and plumule. Fig. 11. Transverse section of the ovule, to shew the two cotyledons.—*All more or less magnified.*

Rhododendron arboreum.

RHODODENDRON ARBOREUM.

Tree Rhododendron.

DECANDRIA MONOGYNIA.—NAT. ORD. *ERICEÆ.*

GEN. CHAR.—*Cal.* 5-partitus. *Cor.* subinfundibuliformis. *Stam.* declinata. *Caps.* 5-locularis.

Rhododendron *arboreum;* foliis obovato-lanceolatis supra glabris subtus argenteis, floribus capitatis, corollæ limbo undulato denticulato, germinibus pubescentibus, staminibus stylo brevioribus.

Rhododendron arboreum, SMITH, *Ex. Bot.* t. 6.—LINDL. *in Bot. Reg.* t. 890. —DON, *Prodr. Fl. Nep.* p. 154.

Rhododendron puniceum, " ROX. *Hort. Beng.* 33."

Trunk erect, reaching to several feet in height, bearing many spreading branches, in irregular clusters from the extremities. *Leaves* from the top of the annual shoots, obovato-lanceolate, coriaceous, narrow at the base, subacute at the point, glabrous, green above, silvery white beneath, the effect of excessively short and dense shining tomentum; midrib strong, lateral veins parallel. *Petioles* short, rough, green and grooved above, red beneath.

Flowers in large and terminal dense, hemispherical clusters or heads. *Peduncles* short, white, downy. *Bractcæ* 3 at the base of each, caducous: the lowest half the length of the corolla, large, linear-oblong, white, silky and membranaceous; the other two much smaller and narrower, white, downy, especially at the apex. *Calyx* small, 5-toothed. *Corolla* campanulato-infundibuliform, oblique, of a rich vermilion colour, veined and marked with many dark spots or lines on the upper and inner side; at the base with 5 prominences or gibbosities, which form so many nectaries within, of which the upper one is the largest, and distils a great quantity of a sweetish transparent fluid; at the extremity cut into 5 rounded lobes, crenate and waved, lower segments the narrowest. *Stamens* 10, declined: *filaments* of unequal length, filiform, white; *anthers* small, brown, incumbent, obovate, 2-celled, the cells opening each with a pore at the extremity; *pollen* yellow; *granules* in threes. *Pistil: germen* small, ovate, greenish, ribbed, pubescent; *style* filiform, white, as long as the limb of the corolla, and longer than the filaments; *stigma* capitate, red.

I am indebted to Dr GREVILLE for the figure here given, and to Dr GRAHAM for the description of this superb plant, both of which were taken from a plant that blossomed in the greenhouse of Mr CUNNINGHAM at Edinburgh, in June 1825.

The plant, as is well known, is a native of Nepaul, where it was found by Dr HAMILTON and Dr WALLICH about Narainhetty. General HARDWICKE, I believe, first detected it in the mountainous tract called the Sewalic chain, which separates the plains of Hindostan, between the 75° and 85° of E. longitude, from the Himalah mountains. There, among forests of oak, it rises with a stem 20 feet or more in height, and from 16 to 24 inches in diameter. About London, we know it has been cultivated in the open air, and we are not without hopes that it may be made to flower while treated as a hardy plant.

Besides the vivid colour of the blossoms of this plant, the leaves present a fine appearance, from their size, and the singular silvery tomentum or down which covers their whole under surface, with the exception of the midrib.

I possess numerous native specimens of this plant, through the liberality of the Honourable the East India Company, together with some other species of the same genus, and from the same country. Amongst them is one very nearly allied to this, which is marked by Dr WALLICH as the *Rhod. campanulatum* of Mr DON. This has shorter and much broader leaves, clothed on their under side with a dense ferruginous tomentum. The flowers appear to be longer than in the *Rh. arboreum*, and either of a rose-colour or white when living.

The *R. arboreum* sometimes varies in its native country with white flowers, and the silvery hue of the lower surface of the foliage is far less distinct in some individuals than in others.

Fig. 1. Flower; and Fig. 2. Corolla cut open, *nat. size.* Fig. 3. Bractea. Fig. 4. Anther. Fig. 5. Pollen. Fig. 6. Calyx, Stamens and Pistil. Pig. 7. Pistil.—Figs. 4. & 5. *magnified.*

2
3
4
5

HABENARIA ALATA.

Wing-fruited Habenaria.

GYNANDRIA MONANDRIA.—NAT. ORD. *ORCHIDEÆ.*

GEN. CHAR.—*Corolla* ringens. *Labellum* basi subtus calcaratum. *Glandulæ pollinis* nudæ, distinctæ (loculis pedicellorum adnatis vel solutis distinctis).—BR. *in Hort. Kew.*

Habenaria *alata*; tuberibus subsphæricis, labello basi bidentato petalisque duobus interioribus minoribus lanceolatis, tribus exterioribus ovatis subpatulis, germine alato, cornu lineari-compresso germine breviore.

Root fibrous, and having one or two small, nearly spherical tubers. *Stem* 1 to 1½ foot high, erect, leafy. *Leaves* lanceolate, acuminate, carinate, erect, glabrous.

Spike about 4 inches long, consisting of many rather densely placed flowers, each accompanied with a lanceolato-subulate bractea. *Corolla:* with the petals scarcely patulous, the *3* outer ones ovate, free, the inner smaller, lanceolate; the *lip*, which is never pendent, but at most standing forward, is the same size as the inner petals, lanceolate, and has a tooth on each side at the base, whilst on the under side, it runs down into a curved compressed horn, nearly as long as the germen. *Column* very short, thick, projecting forward, with two tuberculated processes. *Anther*, with the two cells distinct, their bases elongated, so as to reach the tuberculated processes: *Pollen-masses* oval, upon a very long, green, filiform, elastic stalk, having a round gland at the base. *Germen* oblongo-clavate, slightly twisted, furrowed; the six angles of the furrows extended into as many longitudinal winged processes.

This species of *Habenaria*, of which I can find no description, is remarkable for the winged angles of its germen and capsules. It was communicated to me with many other rarities, both dried and preserved in spirits, by the Reverend L. GUILDING, from St Vincents.

Fig. 1. Side view of a flower. Fig. 2. Front view of the same. Fig. 3. Column, lip and spur. Fig. 4. Pollen-mass. Fig. 5. Section of an advanced germen.—*All more or less magnified.*

1

2

3

4

5

Aerethusa Sonnerati.

ARETHUSA BULBOSA.

Bulbous Arethusa.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Labellum* inferne cum columna adnatum; superne cucullatum; intus cristatum. *Petala* mutica, basi connata. *Pollen* angulatum.—*Br.*

Arethusa *bulbosa.*

Arethusa bulbosa, Linn. *Sp. Pl.* v. ii. p. 1346.—Willd. *Sp. Pl.* v. iv. p. 80.—Pursh, *Fl. N. Am.* v. ii. p. 591.—Br. *in Hort. Kew.* ed. 2. v. 5. p. 205.

Root a small roundish solitary tuber, with a few brownish fibres. *Stem* 8 or 10 inches high, slender, erect, simple, terete, glabrous; sheathed from the base above the middle with 3 or 4 rather short obtuse leaves; one or two of the upper are alone sometimes extended into an acuminated portion, distinct from the sheath.

Flower terminal, solitary, rarely two together, at the extremity of the stem; large, upright, fragrant. *Petals* 5, oblong, broadest upwards, subacute, of a beautiful rose colour, subconcave, slightly incurved, the 2 innermost most so; all of them incorporated below, meeting in the front at the very base, and there forming a short gibbous process or spur. *Labellum* springing from within this spur, at first rising erect, then deflexed in its upper half, bifid at the point, minutely crenato-serrate at the margin; the colour whitish, beautifully marked with purple anastomosing lines, and crested with 3 yellow pubescent lines. *Column* long, linear, greenish, its base united with the base of the petals, its extremity dilated, slightly lobed and serrated, membranous, purplish, incurved. *Stigma* projecting on its upper part, on which projection the subconical *anther* is situated, fixed, however, by a point on its back to the dilated portion of the column; greenish, its base yellow, 2-celled, each cell containing two subovate, compressed pollen-masses, composed of numerous, yellow, subelastically cohering granules. *Germen* very short, columnar, greenish-purple; with a small ovate bractea at the back.

A native of N. America, from Carolina to Canada, from which latter country the individuals from which the accompanying figures were taken, were sent, by the kindness of the Countess of DALHOUSIE, last autumn to our garden. They flowered in June of the year 1824 under a common frame.

As the genus *Arethusa* now stands in the Hortus Kewensis, it contains only the present species; and this, however it may be allied in general appearance to the *Pogonia ophioglossoides* of this work, is abundantly distinct from it in its generic character.

Fig. 1. Flower with the lip forcibly bent down. Fig. 2. Lip. Fig. 3. Upper portion of the column. Fig. 4. Interior view of the anther. Fig. 5. Two of the Pollen-masses.—*More or less magnified.*

Nuttallia digitata.

NUTTALLIA DIGITATA.

Finger-leaved Nuttallia.

MONADELPHIA POLYANDRIA.—Nat. Ord. *MALVACEÆ.*

Gen. Char.—*Calyx* simplex, quinquefidus. *Capsulæ* plurimæ monospermæ in annulo congestæ.(—Nutt. under *Callirrhoe.*)

Nuttallia *digitata*; glauca, foliis subpeltatis profunde 6–7-partitis, segmentis linearibus integris vel iterum bipartitis, supremis simpliciori-bus, pedunculis longissimis axillaribus unifloris.

N. digitata, Dicks. MSS.

Callirrhoe digitata, Nuttall, *in Journ. of Acad. N. Sc. of Philadelphia,* v. ii. p. 181.

Root tuberous, somewhat fusiform, perennial. Whole *plant* slightly glaucous. *Stem* herbaceous, 3 or 4 feet high, branched, terete, glabrous. *Leaves* distant, upon very long footstalks, subpeltate, cut into 6–7 very deep, linear, grooved, simple, or again bipartite, spreading segments, entire at the margin: upper ones smaller, and with fewer divisions.

Peduncles exceedingly long, from the axils of the upper leaves, solitary; single-flowered. *Flowers* large, handsome, concave. *Calyx* quinquefid, the segments acute, moderately spreading. *Petals* five, broadly obovato-cuneate, reddish-purple (carmine-red, Nutt.) scarcely unguiculate, crenate at the margins. *Stamens* numerous, united for nearly their whole length into a pyramidal white tube. *Anthers* reddish, reniform, 1-celled, opening vertically. *Pistil:* germen depressed, tapering into a columnar *style* and numerous filiform *stigmas.* "*Capsules* 1-seeded, and roughened with depressed punctures, not spontaneously opening, and as in *Malva* and *Althæa,* disposed in a ring."—*Nutt.*

Discovered by Mr Nuttall, in bushy places in the open prairies near Fort Smith in the Arkansa territory, and raised from seed in the garden of the University at Philadelphia by Mr Dick, who was particularly anxious that the name of *Nuttallia* should be assigned to it. Mr Nuttall himself called it *Callirrhoe;* but we are no less desirous than Mr

Dick that so interesting a plant should be dedicated to its discoverer, than whom no one can be more worthy of such a mark of distinction.

I possess from Mr Nuttall specimens and a drawing of a second species of this genus, *N. pedata*, Nutt. MSS. which is figured in the present number: both kinds are now growing in our garden, the seeds having been received from Mr Dick.

The individual from which the present figure and description were taken, blossomed in the month of August in the greenhouse of the Edinburgh Garden; but the plants cultivated in the open air at Glasgow are much more vigorous, although, from the circumstance of their flowering later, the inflorescence is less freely expanded.

I have not had the opportunity of examining the seed-vessel, and am therefore unable to offer any farther remarks on the fructification than those which are already given by Mr Nuttall.

Fig. 1. Outside view of a flower, *natural size.* Fig. 2. Anther, in the act of bursting. Fig. 3. Anther opened. Fig. 4. Style and stigmas.—*More or less magnified.*

NUTTALLIA PEDATA.

Pedate-leaved Nuttallia.

MONADELPHIA POLYANDRIA.—NAT. ORD. *MALVACEÆ.*

GEN. CHAR.—*Calyx* simplex, quinquefidus. *Capsulæ* plurimæ, monospermæ in annulo congestæ.—(NUTT. under *Callirrhoe.*)

Nuttallia *pedata*; foliis laciniato-pedatifidis, supremis trifidis, floribus paniculatis.

Nuttallia pedata, NUTT. MSS.

The figure here given of *Nuttalia pedata*, is copied from a drawing made by Mr NUTTALL in America, who discovered it inhabiting, like the *N. digitata*, prairies in the Arkansa territory. To Mr DICK of Philadelphia our garden is indebted for living plants, which flowered well during the autumn of last year.

In the form and colour of the flowers, this species is certainly very closely allied to the *N. digitata*. In the leaves, however, and in the panicled inflorescence, it is widely different.

Tillandsia bulbosa

J. Swan Sculpt.

TILLANDSIA BULBOSA.

Bulbous Tillandsia.

HEXANDRIA MONOGYNIA.—NAT. ORD. *BROMELIACEÆ.*

GEN. CHAR.—*Calyx* trifidus, persistens. *Corolla* trifida, campanulata. *Capsula* trilocularis, loculis polyspermis. *Semina* papposa.

Tillandsia *bulbosa;* foliis (paucis) e basi latissimo longe subulatis flexuosis convolutis, spica subsimplici bracteis distichis imbricatis (viridibus) flore paule brevioribus, corolla (purpurea) laciniis acuminulatis, staminibus exsertis.

Parasitic. *Leaves* 6–7 inches long, rigid, few and mostly confined to the very lowest part of the plant, where their bases are so much enlarged and dilated as to form a sort of bulb; the rest of the leaf is subulate, with the margin so entirely convolute as to appear cylindrical, remarkably spreading, flexuose, and more or less twisted: those of the *stem* (which scarcely exceeds the leaf in length), narrower at the base, and sheathing. *Spike* 2–3 inches long, of about 8 distichous, imbricated, rather large green *bracteas,* each inclosing a single flower; simple, or bearing a secondary few-flowered spikelet near the base.

Flowers but little protruded beyond the bracteas. *Calyx* shorter than the corolla, of three lanceolate, green segments. *Corolla* composed of three linear-lanceolate, convoluto-imbricate, rigid, acuminulate, purplish-blue laciniæ, white at the base. *Stamens* six, rather longer than the corolla; *filaments* even; *anthers* oblong, blue; *pollen* yellow. *Germen* ovate, green 3-celled, many-seeded. *Style* exceeding the stamens, filiform; *stigmas* 3, rather long, spirally twisted, pubescent within.

This singular species of *Tillandsia* blossomed in the stove of the Botanic Garden, Glasgow, August 1824, the plant having been sent the previous year by the late Baron DE SCHACK from Trinidad. It was planted in a pot of common loam, mixed with peat, and kept tolerably moist. The flowers are small,

but rendered conspicuous by their lively blue colour. The leaves are singularly twisted, rigid, convolute; but so enlarged at the base, that the plant there appears quite bulbous.

Fig. 1. Segments of the calyx. Fig. 2. Flower, from which the calyx is removed. Fig. 3. Segment of the corolla. Fig. 4. Stamens and pistil. Fig. 5. Anther. Fig. 6. Section of the germen. Fig. 7. One of the stigmas.—*All more or less magnified.*

Cynoglossum multiflorum

CORALLORHIZA MULTIFLORA.

Many-flowered American Corallorhiza.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Labellum* basi productum: calcare adnato vel libero. *Columna* libera. *Massæ pollinis* 4 obliquæ (nec parallelæ, *Br.*)

Corallorhiza *multiflora;* aphylla, scapo multifloro (15–30) labello cuneato-ovali tripartito recurvo maculato, calcare conspicuo adnato.

Corallorhiza multiflora, Nuttall, *in Journ. of Acad. of Nat. Sc. of Phil.* v. iii. p. 138. tab. 7.

Corallorhiza innata, Nuttall's *Gen. Am.* v. ii. p. 197.

Root composed of many large, much branched, yellowish, anastomosing and fleshy fibres, similar to that of our European *C. innata.* *Stem* about a foot high, of a reddish-purple colour, terete, jointed, leafless: in lieu of leaves it is furnished with large, cylindrical, somewhat inflated, sheathing, pale brownish scales, which, at the top, are cut down a little way on one side.

Flowers arranged in a rather loose terminal spike, about 20, erect, each subtended by a small scale or bractea, which is bifid or trifid at the point. The three outer segments of the perianth are moderately spreading, linear-lanceolate, dingy yellow, brown at the lips, united together below; the two lateral lower ones of these unite at the base in front, and form a yellow sac or short spur, the back of which is adnate with the top of the germen: Two inner segments lanceolate-obtuse, yellowish-brown, somewhat connivent over the column. *Lip* about equal in length with the other segments of the perianth, pure white, of a nearly oval form, reflexed at the extremity, 3-lobed; the two lateral lobes or teeth small, and sometimes denticulate, the intermediate one large, with two elevated longitudinal ridges near the base, the margin crisped, and extremity notched: the whole is more or less sprinkled with purple dots, especially at the base.

Column of fructification semicylindrical, slightly curved forward, terminated by the hemispherical, deciduous, operculiform anther. This *Anther* incloses 4 ovate, deep yellow pollen-masses, which are united by their base to a pellucid oblong gland. *Stigma* subquadrate. *Germen* clavate, reddish-purple, erect, twisted at the base.

For the introduction of this singular and highly curious plant, our Botanic Garden is indebted to Mr CLEGHORN of Montreal, who sent living roots of it from Canada to Mr MURRAY. These, along with many other rare American, especially orchideous plants, were put into a border of the garden, prepared with a due admixture of peat-earth, and covered with a very large and deep many-sashed glass frame, and the whole have flourished to such a degree as to be pronounced (by those who have seen both them and the vegetation of Canada) finer than they appear in their native soil and climate. This I can readily believe, from the present plant itself, which has attained to nearly thrice the size of the figure given by NUTTALL.

C. multiflora, which was formerly confounded with the European *C. innata*, differs from it in the much greater number of flowers produced on a spike, the form of the lip, and in the presence of a very distinct spur. It extends, according to NUTTALL, from New England to Carolina in the United States, and appears to be not uncommon even in Canada. NUTTALL says it is parasitic *near* the roots of trees. With us, the attachment of the roots has simply been with the soil; and its flowering-season the month of May, whereas it is given in America as blossoming from July to September.

Three species of this genus are enumerated by Mr NUTTALL as inhabiting N. America; or four, if *Cymbidium hyemale* of WILLDENOW be really of that genus, which differs remarkably in habit, having a tuberous root, and a solitary root-leaf.

Fig. 1. Side view of a flower. Fig. 2. Front view of ditto. Fig. 3. Lip. Fig. 4. Column of fructification. Fig. 5. Pollen-masses.—*All more or less magnified.*

1

2

3

4

5

T. Swan. Sculpt. Glasgow.

Habenaria dentata

HABENARIA BRACTEATA.

Long-bracted Habenaria.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Cor.* ringens. *Labellum* basi subtus calcaratum. *Glandulæ pollinis* nudæ distinctæ (loculis pedicellorum adnatis v. solutis distinctis.)

Habenaria *bracteata;* cornu abbreviato didymo, labello lineari retuso tridentato: lateralibus obtusis; medio obsoleto, bracteis flore duplo dentibus longioribus.

Habenaria bracteata, Br. *in Hort. Kew.* ed. 2. v. 5. p. 192.

Orchis bracteata, Willd. *Sp. Pl.* v. iv. p. 34.—Pursh, *N. Am. Flora,* v. ii. p. 587.

Orchis bractealis, " Salisb. *Parad.* t. 110."

Root subpalmated, with several large fleshy simple fibres. *Stem* about a foot high, leafy, striated, and angular. *Leaves* ovato-lanceolate, rather obtuse, striated; the upper ones gradually smaller and narrower, and passing, as it were, into bracteas.

Spike 4–5 inches long, with the flowers numerous, but rather distantly placed, and not half so long as the bracteæ, which are linear-lanceolate, green, and very leafy. *Corolla* with the 5 petals connivent, green: the three outer ones ovate, having the two lateral ones embracing and including the inner one. Two interior petals quite concealed by the outer ones, narrow, linear-oblong, green. *Lip* about as long again as the petals, pendent, linear or linear-oblong, yellow, or brownish-green, minutely dotted, slightly convex, cut at the extremity into two rather obtuse teeth, and having an intermediate very short and almost obsolete one: at the base beneath is a small obtuse, slightly incurved and somewhat didymous inflated spur. *Germen* linear-oblong, green, sulcated, much twisted. *Column* very short. *Stigma* quadrangular, hollow, upon the top of which is inserted the *Anther*, of two cells, their bases tapering and standing apart. *Pollen-masses* clavate, yellow, having the gland at the base of the pedicel naked.

This is a species that has little beauty to recommend it, either of form or colour: with regard to the latter, with the exception of the lip, it is of one uniform green, in the stem and leaves, as well as the flowers.

One of the most striking features exists in the very long bracteæ.

It is a native of North America, and the plant from which our figure was taken, was sent by Mr CLEGHORN from Canada to our Botanic Garden, where it flowered under a common frame, in the early part of the month of June 1825.

It seems to have been first known to our gardens in the year 1805, through the medium of Messrs NAPIER and CHANDLER.

Fig. 1. Front view of a flower. Fig. 2. Side view of ditto. Fig. 3. Flower. deprived of the 5 petals. Fig. 4. Column; stigma and stamen. Fig. 5. Pollen-mass.—*All more or less magnified.*

CINNAMOMUM NITIDUM.

Shining-leaved Cinnamon.

ENNEANDRIA MONOGYNIA.—Nat. Ord. *LAURI.*

Gen. Char.—*Flores* hermaphroditi. *Perianthium* 6-fidum, persistens. *Stamina* 12, duplici ordine, interiorum 3 laciniis interioribus opposita, sterilia. *Antheræ* 4-loculares. *Glandulæ* 6, ad basin filamentis interioribus. *Drupa* monosperma, basi perianthii persistentis segmentis tecta.

Cinnamomum *nitidum;* arboreum, foliis suboppositis elliptico-lanceolatis obtusis trinervis supra nitidis subtus opacis subglaucis, paniculis simplicibus subaxillaribus compactis, floribus ternis, glandulis filamentorum pedicellatis.

Laurus nitida, Roxb. MS. cum ic.
Laurus Cassia, Nees von Esenb. *in Diss. Cinnam.* p. 53. t. 3. (*vix* Linn.)

In its native country, this plant probably forms a large tree, whereas in the Liverpool Botanic Garden it has only reached the height of 8 or 9 feet. The young *branches* are green, terete, glabrous. The *leaves* 5 or 6 inches long, elliptical-lanceolate, obtuse at the base and the extremity, subcoriaceous, 3-nerved (the nerves reaching from the base to the point), with transverse parallel veins, of a deep and full shining green above, beneath much paler, subglaucous, not shining, the nerves prominent. *Petioles* $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, terete, grooved above.

Towards the extremity of the branches from the axils, and above the axils of the leaves, the panicles arise. These are scarcely so long as the leaves, slightly silky, simple, compact. *Branches* pale coloured, bearing 3 pedicellated flowers; these have, as well as the branches, very minute bracteæ at the base. *Flowers* small, pale green, slightly pubescent or silky. *Perianth* 6-cleft, the segments ovate-obtuse, not spreading, but almost connivent, and concealing the organs of fructification. *Stamens* 12, in two rows, standing face to face, perigynous, 6 outer ones perfect; 6 inner ones having 3 of them abortive, and the other three with a pedicellated gland on each side of the base of the filament. *Germen* ovate. *Style* thick, longer than the germen. *Stigma* subtrigonal. *Fruit*, according to Roxburgh, a blue drupe, about $\frac{1}{2}$ an inch long.

Sent by Dr WALLICH to the Messrs SHEPHERD at Liverpool, where it flowered in June 1825, under the name of *Laurus nitida*, and I find that it perfectly agrees with an unpublished figure of *L. nitida* of ROXBURGH, in the possession of the East India Company. It is there mentioned as a native of Sumatra, and as the *Cassia* of Mr MARSDEN in his History of Sumatra, p. 156. If so, it is a tree whose root is said to produce so much camphor, that the bark is bought by the Dutch merchants, and shipped to Spain for real cinnamon, and that the price it bears in the island is ten or twelve dollars the pekul.

The leaves of our plant have the same fragrant smell and the same flavour as the *Laurus Cassia* of our gardens * ; but in that plant, the leaves are broader at the base, sharp at the point, the nerves disappearing before the point, the young ones very red, and the panicles remarkably lax and spreading. It comes, indeed, nearer the true cinnamon, but the leaves are in our plant much smaller and very glossy. I possess what I consider the same plant in my herbarium, from Prince of Wales's Island, only that the leaves are narrower. The Prince of Wales Island plant Dr HAMILTON considers to be the same with his *L. Tamala*.

I have followed Mr BROWN in keeping *Cinnamomum* distinct from the true *Laurus* (*L. nobilis*), which has diœcious flowers, a much greater number of stamens, and only two cells to the anthers, besides a different habit.

Fig. 1. Flower. Fig. 2. Flower cut open, to shew the stamens and glands. Fig. 3. Front view of an outer stamen. Fig. 4. Back view of an inner stamen. Fig. 5. Pistil.—*All more or less magnified.*

---

* And of Bot. Mag. t. 1636. The *L. Cassia* figured by NEES VON ESENBECK in his "De Cinnamomo Disputatio," t. 3. appears exactly to correspond with the present plant, only that the staminal glands are not represented. It would be impossible, perhaps, to determine what LINNÆUS meant by his *Laurus Cassia*. He refers to figures in the Hortus Malabaricus and Burm. Zeyl. which appear to represent two very different plants; but both have very acute leaves, which is not the case with ours or NEES's plants.

Thunbergia alata

THUNBERGIA ALATA.

Wing-petioled Thunbergia.

DIDYNAMIA ANGIOSPERMIA.—Nat. Ord. *ACANTHACEÆ.*

Gen. Char.—*Cal.* duplex: *ext.* diphyllus; *int.* subduodecim-dentatus. *Cor.* campanulata. *Caps.* bilocularis rostrata.

Thunbergia *alata;* pubescenti-sericea, foliis cordatis acutis angulatis, petiolis alatis, caule volubili.

Thunbergia alata, Bojer, MSS.

Stem long, slender, twining, clothed as well as the leaves and calyx, with a yellowish, silky, pubescence. *Leaves* cordate, or cordato-hastate, acute, angular at the margin, particularly near the base, with five principal and several smaller nerves, dark green above, paler beneath; *petioles* as long as, or longer than, the leaves, winged on both sides from the base to the extremity.

Peduncles solitary, axillary, opposite, somewhat shorter than the leaves. *Ext. calyx* of 2 large ovato-cordate, opposite, pubescent leaves; *inner* one small, embracing the base of the germen with several short irregular teeth or segments. *Corolla* large; *tube* subcylindrical, broader upwards, not much longer than the outer calyx, deep purple, especially within; *limb* of 5 obcordate, large spreading, yellowish-buff coloured segments. *Stamens* included within the tube *.

This is a second new species of *Thunbergia*, which has been discovered by Messrs Helsinborg and Bojer, and communicated by Charles Telfair, Esq. of the Mauritius,

* Mr Barclay having, along with *Th. alata*, sent to me the fruit of *Th. angulata*, a species given at t. 166. of this work, I here figure and describe it:

Capsule globose, with a long acuminated beak, surrounded at the base by the persistent inner calyx, opening elastically, and with a considerable report, into two equal valves; 2-celled partition of the cells contrary to the valves, membranaceous, easily separating from the valves, and supporting 4 seeds, which are laterally attached, two on each side. *Seeds* half-oval, brown, convex, and wrinkled without: the inner side having an oblong smooth depression.

to Mr Barclay. It was found inhabiting grassy places in Zanzibar and Pemba, two small islands on the eastern coast of Africa, in about 5° or 6° of South Latitude.

The seeds were sown at Bury-hill on the 7th of February 1825, and in June of the same year, the plants blossomed in the stove. The flowers continued in perfection from four to six days, and it appears likely that there will be a succession of them through the summer; so that this plant promises to be a most valuable addition to our collections.

Fig. 1. Capsule, with the persistent inner calyx. Fig. 2. Section of ditto. Fig. 3. One valve of the capsule, including the partition and seeds. Fig. 4. Back view; and, Fig. 5. Front view of the seed.—*All but* Fig. 2. *scarcely at all magnified.*

Gongora atropurpurea.

GONGORA ATRO-PURPUREA.

Dark-flowered Gongora.

GYNANDRIA MONANDRIA.—NAT. ORD. *ORCHIDEÆ.*

GEN. CHAR.—*Petala 3* exteriora patentissima lanceolata subuniformia, superiore dorso columnæ inserto, duobus interioribus parvis ad marginem columnæ insertis decurrentibus. *Labellum* vomeriforme subpedicellatum basi superne dentatum, inferne gibbosum. *Columna* longissima.

Gongora *atro-purpurea;* petalorum trium exteriorum marginibus reflexis, labello superne subseptemdentato.

From an oblong and cylindrical, deeply sulcated, fleshy, bulbiform *stem,* there spring at the extremity two rather large, ovato-lanceolate, striated, and subplicated *leaves,* waved at the margin, and tapering at the base. *Scape* 2 feet in length, arising, I presume, from the base of the bulb, zigzag, slender, glabrous, terete, dark purple. *Bracteæ* minute, at the base of each flower.

The whole flower is of a deep purple-brown or chocolate colour. The three outer *petals,* an inch in length, are much spreading, lanceolate; the upper one springing from the back of the column, rather the smallest, the two lateral ones with a large tooth-like process at the base of the upper margin; all the margins revolute. *Two* inner petals very small, incurved, with an acuminated and twisted apex, fixed by its decurrent base to the margin of the column, near the base of the superior and outer petals, and at some distance from the two lowermost outer ones. *Lip* of so curious a form as to be more easily represented in the figure than to be described in words. It is nearly an inch long, standing out at right angles from the flower; having a cylindrical peduncle or stalk at the base, at the apex of which are four large curved horns or tooth-like processes, two obtuse, and two acuminated; there is an aperture within the base of each of the latter, and between them two small upright teeth. The extremity of the *labellum* is a laterally compressed, and consequently vertical plate, double at the upper edge, and sharp, obtuse at the lower edge, and gibbous at its base, acuminate at the extremity. *Germen* 2–3 inches in length, curved, pedunculiform, not twisted. *Column* very long, semi-cylindrical, broadest upwards, and bearing upon its back and sides the three upper petals. *Anther* terminal, operculiform, deciduous, with two obscure cells, and containing

oblong, but below tapering, deep yellow, waxy, solid pollen-masses fixed by their base to an oblong white gland, which forms a beak from beneath the anther, before the falling of the latter.

This is one among the many, and not the least curious, of the orchideous plants, introduced by the late Baron de SCHACK to our gardens from Trinidad. Bulbs of it were received at the Liverpool Botanic Garden, where they flowered in the month of June of the present year (1825), and whence a magnificent spike of two feet in length, together with the bulb and leaves, were sent to me by Mr H. SHEPHERD.

There can, I think, be no question that it belongs to the genus *Gongora* of RUITZ and PAVON, of which only one species had hitherto been discovered; the one upon which the genus was founded. The flowers of that species are figured in the 25th plate of the Prodromus of the *Flora Peruviana*, and seem to differ principally from those here given in having the three outer petals concave, and the lip remarkably gibbous beneath, and with only two prominent teeth above.

Fig. 1. Side view of a flower. Fig. 2. Back view of do. Fig. 3. View of the under side of the labellum. Fig. 4. Lateral view of the labellum. Fig. 5. Column. Fig. 6. Top of the column, with the anther removed. Fig. 7. Anther case. Fig. 8. Pollen-mass.—*All more or less magnified.*

Brassia caudata

BRASSIA CAUDATA.

Long-tailed Brassia.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Labellum* explanatum indivisum. *Petala* patula distincta. *Columna* aptera. *Massæ* pollinis duæ, postice bilobæ; medio affixæ processui communi stigmatis.—*Br.*

Brassia *caudata;* petalis tribus exterioribus valde attenuatis inferioribus longissimis, labello oblongo acuminulato, foliis lanceolatis binis, bulbo-compresso.

Brassia caudata, Lindl. *in Bot. Reg.* t. 832.
Malanis caudata, Willd. *Sp. Pl.* v. 4. p. 93.
Epidendrum caudatum, Linn. *Sp. Pl.* p. 1349.
Epidendrum foliis radicalibus lanceolatis, Plum. *Plant. Am.* t. 177.

From an oblong, much compressed, thin bulb, about four inches long, arise the two lanceolate, obtuse, rather thick, and fleshy *leaves*, not visibly striated.

The *scape* is produced from a small sheathing leaf, thickened at the base into a sort of bulb; it is a foot or a foot and a half long, terete, here and there furnished with a sheathing bractea, and small bracteæ at the base of the flowers.

Spike long, lax, of 8 or 10 flowers. Segments of the *perianth* all spreading deep fulvous-yellow, spotted with brown; three outer segments much acuminated, their two lowermost ones ending in excessively long points; two inner ones lanceolate. *Lip* pendent, thin, membranaceous, oblong, plane, or slightly convex, pale yellow, spotted near the base, and there having four white tubercles, two large and oblong, and two smaller conical ones, the margin waved, ending in a narrow acumen. *Column* very short, green. *Anther* nearly hemispherical, slightly downy, 2-celled, operculiform, containing two obovate pollen-masses, which have a depressed spot behind, and which are united by their basis to a small whitish gland. *Germen* subclavate, striated, scarcely twisted, green.

The superb specimen of this plant here given flowered in June 1825, in the stove of the Botanic Garden of Liverpool,

having been sent thither by Mr Wiles from Jamaica. The colour of the flower is much brighter than that of the flowers of this species figured in the *Botanical Register*, and the leaves are less evidently striated.

Plumier's figure, above quoted, represents the same species in all probability, but the bulb and leaves have there the appearance of being very much striated; the flowers, too, are a good deal larger. It seems, therefore, to be an inhabitant of the continent of America as well as of Jamaica.

Fig. 1. Lip and column of the flower. Fig. 2. Column, side view. Fig. 3. Column from which the anther-case is removed, shewing the situation of the pollen-masses. Fig. 4. Anther-case. Fig. 5. Pollen-masses, under side.—*All more or less magnified.*

Lonicera atrorubens

LYSIMACHIA ATRO-PURPUREA.

Purple-flowered Loosestrife.

PENTANDRIA MONOGYNIA.—NAT. ORD. *PRIMULACEÆ.*

GEN. CHAR.—*Cal.* 5-fidus. *Cor.* rotata. *Filamenta* basi dilatata subconnata. *Capsula* globosa 5–10 valvis..

Lysimachia *atro-purpurea ;* racemis terminalibus capitatis, staminibus corolla (laciniis suberectis) longioribus, foliis subspathulato-lanceolatis subtus punctatis glaucis.

Lysimachia atro-purpurea, LINN. *Sp. Pl.* p. 209.

" Lysimachia orientalis angustifolia, COMM. *Rar.* 33. t. 33."

Stem erect, obscurely 4-angled, (biennial?), nearly simple, with distantly placed, mostly opposite *leaves,* which are broadly lanceolate, subspathulate in the lower part of the stem, tapering into a kind of footstalk, and semiamplexicaul ; the upper side is a dark green, the under side paler and glaucous, and more distinctly marked with the ramifications of the nerves, and dotted ; every where glabrous.

The *flowers* are produced in large, dense, capitate racemes, each accompanied by a small linear bractea. *Pedicel* about $\frac{1}{2}$ or $\frac{3}{4}$ths of an inch long, and, as well as the calyx, which is 5-partite with linear segments, deep blackish-purple. *Corolla* large, infundibuliform, with the segments broadly lanceolate and erecto-patent; the colour a beautiful deep reddish-purple, internally having some minute, sessile glands. *Filaments* of the stamens of the same colour, much protruded, their base inserted at the base of the segments of the corolla. *Anthers* deep purplish-blue. *Pollen* greenish. *Germen* spherical, green. *Style* strait, shorter than the corolla, purple. *Stigma* obtuse.

Our Botanic Garden has derived the possession of this plant from the collection of his Royal Highness Prince LEOPOLD, to whom we are probably indebted for its introduction to this country, for I do not find it to be mentioned in any of our horticultural Catalogues, although it appears to have been cultivated many years ago, both in the Botanic Gardens of Upsal and Amsterdam.

With us it has hitherto been treated, on account of its rarity, as a greenhouse plant, when it has the appearance of being at least a biennial. But it may be better perhaps to regard it as a hardy annual; and it is certain that it is mentioned by WILLDENOW as of annual duration. It is a native of the Levant.

Some authors describe the flowers as sessile; but this is not the case in our plant, although the upper and younger flowers on the raceme may be nearly so.

Closely allied to this is *L. dubia* of *Hortus Kewensis* (probably the *L. orientalis* of LAMARCK), which has the stamens included in the corolla, and inhabits the Caucasus; and still more nearly the *Lubinia atropurpurea* of LINK and OTTO, in the Plants of the Berlin Garden, t. 27, a native of the Cape of Good Hope. Indeed, I can see no difference in the two plants whatever. The genus *Lubinia* was founded by COMMERSON upon the *Lysimachia mauritiana* of LAMARCK, which has a spreading, somewhat irregular limb to the corolla, and alternate leaves.

Fig. 1. Flower. Fig. 2. Anther with its cells closed. Fig. 3. Anther with the cells open, and filled with the pollen. Fig. 4. Corolla opened to shew the situation of the stamens and the pistil. Fig. 5. Pistil. Fig. 6. Germen cut through transversely to shew the ovules. Fig. 7. Back view of a leaf.—*All but Fig. 7. more or less magnified.*

2
3

ALSTRŒMERIA ROSEA.

Rose-coloured Alstrœmeria.

HEXANDRIA MONOGYNIA.—Nat. Ord. *AMARYLLIDEÆ.*

Gen. Char.—*Perianthium* corollaceum, subcampanulaceum, sex-partitum irregulare; laciniis duabus interioribus basi tubuloso-conniventibus. *Stamina* sex, demum declinata. *Stigma* trifidum. *Capsula* trilocularis, loculis polyspermis. *Caulis erectus, scandens aut volubilis, foliatus. Flores umbellati.*

Alstrœmeria *rosea*; caule erecto gracili, foliis linearibus glaucis subtortis, umbella (panicula) subsexflora, perianthii foliolis recurvato-campanulatis subserratis 3 *exterioribus* ob ovato-spathulatis, 3 *int.* lineari-spathulatis.

Stem slender, erect, simple, terete, glaucous, and, as well as every part of the plant, glabrous. *Leaves* small, distant, linear, slightly twisted.

Flowers in a dichotomous *panicle* rather than in an umbel, of about 6 nearly erect, rose-coloured flowers. *Pedicels* long, slender, with a foliaceous bractea at their base. *Perianth* of 6 leaves, which meet so as to form a tubular base, while their apices are spreading; all nearly equal in length. The three outer ones the broadest, obovate, tapering down into a narrow base, serrulate above, obscurely marked with lines interiorly, exteriorly with dark reddish-purple streaks; the three inner linear, spathulate, the lower one marked and serrated as the three outer ones, the two upper with a transverse yellow band above the middle, and dotted with purple; all of them are apiculated, and that apiculus green. *Stamens* 6, of which three shed their pollen at a time, and the *anthers* from purple become greenish-brown. *Filaments* purple. *Germen* inferior, turbinate, deeply furrowed. *Style* purple, shorter than the stamens, at length longer, and unfolding 3 curved, filiform stigmas.

Introduced into our Glasgow Botanic Garden at the same time, and from the same source, as the *Alstrœmeria pulchella* and *Alstr. tricolor*, already figured in this work; the seeds of all having been sent from Chili by Mr Cruickshanks. The present individual blossomed for the first time in the green-

house, during the summer of last year; but the inflorescence was much more fully developed in the month of July of the present year (1825).

In the colour and markings, and perhaps, too, in the shape of the flower, it comes nearer to *Alstræmeria pelegrina* than to any other known species of the genus; but in that the leaves are vastly broader and longer, and the outer segments of the perianth are obcordate, and all of them much more spreading.

Fig. 1. Back view of a flower. Fig. 2. One of the outer leaflets of the perianth. Fig. 3. One of the inner and uppermost ones with its tubular base. Fig. 4. One of the inner and lowermost.—*All slightly magnified.*

Caladium virginicum.

CALADIUM VIRGINICUM.

Virginian Caladium.

MONŒCIA POLYANDRIA.—NAT. ORD. *AROIDEÆ.*

GEN. CHAR.—*Masc. Cal.* 0. *Cor.* 0. *Anth.* peltatæ multiloculares in spicam ad apicem spadicis compositæ. *Fœm. Cal.* 0. *Cor.* 0. *Germina* ad basin spadicis inserta. *Stylus* 0. *Bacca* unilocularis, polysperma.—*Willd.*

Caladium *virginicum*; acaule, foliis hastato-sagittatis, spatha elongata sensim attenuata, curvata spadice multo longiore, basi margine crenato-undulata.

Arum virginicum, LINN. *Sp. Pl.* p. 484.—WILLD. *Sp. Pl.* v. iv. p. 484.—PURSH, *Fl. N. Amer.* v. ii. p. 399.—ELLIOTT, *Bot.* v. ii. p. 630.
Calla virginica, MICH. *Fl. Am. Bor.* v. ii. p. 187.

Root, according to Mr ELLIOTT, tuberous. *Leaves* springing from the root, a foot or a foot and more in length, and varying very much in shape, sometimes narrow and hastate, at other times broader, and almost exactly sagittate, membranaceous, acute at the extremity, and having the two lobes at the base much lengthened, and more or less acute, or even acuminate; the colour is dark green, veined, and if held between the eye and the light, the innumerable pale semipellucid veins will be found to have a very beautiful appearance. *Petiole* almost two feet long, cylindrical, striated, and spotted.

Scape one or two feet long, the lower part inclosed by the long sheathing, bicarinated bractea, and the equally long sheathing bases of the leaves, erect, cylindrical, striated, and spotted.

Spadix 6 inches long, subterete at the base, thence tapering gradually to a point and recurved, the margins involute, white below, and waved and notched, the rest dark green, obscurely striated; spadix about one-third of the length of the spatha, exserted, in consequence perhaps of the recurvation of the spatha, erect, cylindrical; below clothed with many spherical, yellowish-green pistils, having a nearly sessile, glandular stigma; about the middle with many densely-placed, wrinkled, peltate, abortive stamens; and above them, to the extremity in my specimens (the summit naked in one I have received from Dr TORREY) with numerous, crowded, subhexagonal, peltate, at their summit depressed, yellowish stamens. *Anthers* several, just beneath the margin of the peltæ, furrowed down the centre, opening with a pore at the extremity.

This plant appears to have been known in our gardens for nearly half a century; yet no figure, as far as I know, has yet been published of it. MICHAUX found it to extend from New England to Virginia in North America, and ELLIOTT tells us it abounds in Carolina and Georgia.

It is singular that no modern author should have arranged this plant with the *Caladia*, with which it entirely accords, and to one species of which (*C. sagittifolium*) it has a very close affinity, differing principally in the form and colour of the spatha, ovate at the extremity, and white in the *sagittifolium*. Occasionally, indeed, the apex of the spadix is naked as in *Arum*, but then the anthers are quite different in structure, precisely according with those of *Caladium*.

Our figure was taken from a plant which flowered in the Liverpool Botanic Garden in May 1825, and which was sent from North America by Mr BRADBURY. It is a hardy species.

Fig. 1. Spadix covered with the stamens and pistils. Fig. 2. Stamens. Fig. 3. Portion shewing a single anther. Fig. 4. Pistil.—*All more or less magnified.*

Paeonia arborea.

ŒNOTHERA ODORATA.

Fragrant Waved-leaved Evening Primrose.

OCTANDRIA MONOGYNIA.—NAT. ORD. *ONAGRÆ.*

GEN. CHAR.—*Cal.* tubulosus 4-partitus, deciduus. *Petala* 4. *Capsula* infera, cylindracea, vel prismatica, 4-locularis. *Semina* nuda.

Œnothera *odorata*; caulescens, pubescens, herbacea, foliis lanceolato-attenuatis undulato-crispatis subdentatis, petalis emarginatis, capsulis linearibus obtuse tetragonis.

Œnothera odorata, JACQ. *Ic. Rar.* v. iii. t. 456.—JACQ. *Coll.* v. v. p. 107.—WILLD. *Sp. Pl.* v. ii. p. 308.—*Bot. Reg.* t. 147.
Œnothera undulata, *Hort. Kew.* ed. 2. v. ii. p. 342.

Root annual, fibrous. *Stem* a foot or a foot and a half high, branched, mostly red; every where, as indeed is the whole plant except the corolla, clothed with a soft hairiness or down. *Leaves* alternate, lanceolate, much attenuated, sessile, of a rather rigid texture, singularly waved and crisped at the margin, and slightly toothed, nerved, the nerves pale; mid-rib prominent, and red beneath.

Flowers solitary, axillary, very large, bright yellow, showy. *Germen* obscurely 4-sided, red, pubescent. *Calyx* with the lower part tubular, the limb of four segments which remain united, bursting open only on one side, the apices furnished with a distinct mucro. *Petals* obcordate, waved. *Stamens* yellow, with the filaments curved to one side. *Anthers* linear. *Style* cylindrical, longer than the stamens. *Stigmas* 4.

During the early part of the present year, I had the good fortune to receive from my valued friend Dr GILLIES of Mendoza, South America, amongst other rare botanical acquisitions of that country, seeds of the present plant. Raised in a hot-bed frame, and planted in a warm border, in the month of June, the plant produced blossoms plentifully in the month of August, which opened every evening at six, diffusing a powerful odour.

Hitherto the plant seems only to have been known in Europe as an inhabitant of Port Desire*, on the east coast of Patagonia, it having been introduced from thence in a packet of seeds which Sir JOSEPH BANKS purchased from the captain of a merchant ship in 1790. Dr GILLIES discovered it in the valleys of the Andes, near Mendoza.

---

* Professor JACQUIN (*Collect.* v. 5. p. 107.) says the plant grows at Champion River in Patagonia, and that *it* and the other Patagonian plants described in that volume "ab illustri MIDDLETON in loco natali detectæ fuerunt, earundemque semina ab egregio GULIELMO FORSYTH, cum filio meo ineunte anno 1793 communicata." Mr GAWLER remarks, that seeds were sent by Sir JOSEPH BANKS to Professor JACQUIN, and that there is no such place in Patagonia as Champion River.

Dendrobium Calceolaria

DENDROBIUM Calceolaria.

Hollow-lipped Dendrobium.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Labellum* ecalcaratum, articulatum cum apice processus unguiformis, cujus lateribus petala antica adnata, calcar æmulantia. *Massæ pollinis* 4, parallelæ.—*Br.*

Dendrobium *Calceolaria;* caulescens, foliis bifariis lineari-lanceolatis, racemo laterali (?), paucifloro, labello ventricoso inflato, pubescente basi attenuato, petalis ellipticis.

Dendrobium Calceolaria, Carey's *MSS.*

Parasitic. *Roots* consisting of numerous, simple, waved, and stout fleshy fibres. *Stem* simple, cylindrical, jointed, striated, bearing towards the extremity several distichous linear-lanceolate, shining, thickish *leaves,* sheathing at the base. From the lower part of the stem, as it would appear (the drawing exactly represents the specimen communicated), springs the raceme, of about five, large, very handsome, and showy flowers.

Peduncle 6–8 inches long, jointed, with sheathing scales at the joints. Segments of the *perianth* nearly equal, elliptical or ovate, spreading horizontally, somewhat waved, the two lowermost running down, along with the base of the column and of the lip, into a thickened spur at the base where it unites with the base of the lip. They are of a delicate rose-colour, beautifully veined in a reticulated manner; the spur tawny. *Lip* erect, jointed upon the prolonged base of the column, and doubled upon it, large, remarkably ventricose, so as exactly to resemble the lip of a *Cypripedium,* pale rose-colour, downy, with two deep rich brown spots within; the base fulvous, attenuated, and forming with that of the column into an obtuse, broad spur. *Column* very short, purple on the back, for the greater part of its length united with the perianth, much prolonged down the front of the germen. *Anther* deep purple, operculiform, attached by a filamentous process to the top of the column, 2-celled, each cell having a dissepiment, and containing two double pollen, in form oblong, masses approximating and forming two pairs. *Germen* very long, pedunculiform, scarcely perceptibly twisted. slightly thickened upwards. *Stigma* a viscid, concave disc just beneath the anther.

Communicated from the rich collection of orchideous plants at Liverpool by Messrs SHEPHERDS, having been sent from the East Indies by Dr CAREY in 1820, under the name of *Cymbidium Calceolaria*. It is not, however, the *Dendrobium Calceolus* of ROXBURGH's drawings and MSS. in the Library of the Honourable the East India Company, which has acuminated leaves, small flower, and a different lip.

The blossom of the present species is as large as that of our *Dendrobium Harrisoniæ*, equally handsome, and since it bears several flowers upon a peduncle, it makes a much more showy appearance. These flowers close at night, but during the day expand so much, that the petals, or segments of the perianth, stand out horizontally, and the lip is so remarkably inflated, that, were it seen separately from the rest of the blossom, it might be taken for that of a *Calceolaria*; and hence no doubt Dr CAREY was induced to give it its present specific appellation.

Fig. 1. Side view of the lip in its natural position. Fig. 2. Ditto forced open to shew the column. Fig. 3. Front view of the column with the lip forced down. Fig. 4. Column *a*. where the lip was jointed upon. Fig. 5. Back view of the column, the anther-case having flown up, and attached by its filamentous process. Fig. 6. Inner view of an anther. Fig. 7. Pollen-mass.—*All more or less magnified.*

Galega tricolor

GALEGA TRICOLOR.

Three-coloured Galega.

DIADELPHIA DECANDRIA.—NAT. ORD. *LEGUMINOSÆ.*

GEN. CHAR.—*Cal.* dentibus subulatis, subæqualibus. *Legumen* striis obliquis, seminibus interjectis.

Galega *tricolor*; pubescenti-pilosa, foliolis oblongo-cuneatis retusis mucronulatis, floribus cernuis, stipulis lanceolato-subulatis basi dentatis.

Stem much branched, angular, slightly hairy. *Leaves* pinnated, with an odd leaflet; *leaflets* oblong or elliptical, cuneate at the base, remarkably obtuse or even retuse at the extremity, slightly pubescenti-pilose, marked with closely set, oblique veins; the number of leaflets vary from 7 to 13, and each is terminated with a small mucro or bristle. *Stipules* lanceolato-subulate, with one or two large teeth at the base, soon withering in the older parts of the stem.

Racemes axillary, pedunculate, 5–6 inches long, with densely crowded flowers, erect in early bud, drooping when in full blossom. *Pedicels* short, slender, supported by a small linear or subulate bractea. *Calyx* subcylindrical, scarcely nerved, obtuse at the base, at the extremity having 5, nearly regular, subulate, slightly hairy teeth. *Vexillum* about as long as the *carina*, broadly ovate, blue, with dark blue lines within near the base; claw white. *Alæ* shorter than the carina, oblong, tapering below, pale blue. *Carina* curved upwards, white, with an orange spot near the extremity, arising from the anthers within.

Stamens 10, diadelphous, 1 free, 9 united. *Filaments* white. *Anthers* oblongo-ovate, deep and bright orange-coloured. *Pistil*: *Germen* linear, pubescent, containing about 8 ovules. *Style* filiform, curved upwards. *Stigma* obtuse, appearing hairy under a very high power of the microscope.

Sent by Messrs SHEPHERD from the Liverpool Botanic Garden, July 1825, as a supposed *Galega* from the north-west coast of New Holland, whence the seeds were introduced by THOMAS BALLS, Esq. of Liverpool. It certainly has the ha-

bit of that genus; but without the seed-vessel I cannot speak with certainty.

Fig. 1. Flower. Fig. 2. Calyx and stamens. Fig. 3. Pistil. Fig. 4. Upper part of the style and stigma. Fig. 5. Vexillum.—*All more or less magnified.*

Cattleya Loddigesii

CATTLEYA Loddigesii.

Long-stalked Cattleya.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Perianthium* resupinatum, patens, laciniis subæqualibus. *Columna* libera, semiteres, labello eroso cucullato amplexa. *Anthera* infra apicularis opercularis persistens, columnæ apice subulato supertecta, 4-locularis; septis completis membranaceis marginatis. *Massæ pollinis* 4, lenticulares, per pares filo elastico granulato in ipsis reflexo connexæ. Lindl.

Herbæ *parasiticæ (Americæ Æquinoctialis)*; bulbis fasciculatis; foliis solitariis (vel binis) carnosis enervibus; floribus terminalibus geminis grandibus subodoris.

Cattleya *Loddigesii*; perianthii laciniis subæqualibus obtusis, labelli trilobo lobo medio sellæformi.—*Lindl.*

Cattleya Loddigesii, Lindl. *in Coll. Bot.* p. 33. (sub C. labiata.)
Epidendrum violaceum, Lodd. *Bot. Cab.* t. 337.

Parasitic. Stem almost a foot high, jointed (scarcely bulbous), the joints linear-oblong, compressed, furrowed, pale green, at the top bearing two oblong, thick, fleshy, dark green, patent, nerveless leaves; from the centre of which rises the peduncle, sheathed at the base with a larger, compressed, membranaceous, greenish bractea, and having at the extremity about 4 remote large handsome flowers. *Petals* oblongo-lanceolate, waved, spreading, and even recurved, of a beautiful rose-colour, sprinkled with dots of a deeper hue. *Lip* large, standing forward, as long as the petals, at the base rolled into a tube inclosing the column, of a pale rose colour, at the extremity deeply 3-lobed, lobes large, crenate and waved, the two upper ones white, the lower one much the largest; emarginate, edged with rose colour; the palate furrowed. *Column* pure white, semicylindrical, broadish upwards. *Anther* small, situated in the front, just beneath the apex, and above the convex viscid *stigma*, hemispherical, laterally compressed, white, within 4-celled, in two pairs; each cell is occupied by a yellow flesh *pollen-mass*, with a foostalk appressed to its edge, and by means of which the pollen-masses are united in pairs. *Germen* very long, terete, thickest upwards, pedunculiform.

This is a second species of this truly splendid genus (the former, *C. labiata*, having been given at t. 157. of this work); and although each individual blossom, taken separately, is neither so large, nor so varied in colour as *C. labiata*, yet, from the circumstance of the plant producing a greater number of flowers, it is equally striking in appearance.

Although recently figured by Mr LODDIGES, it was introduced for the first time into Great Britain at the Botanic Garden of Liverpool, from the neighbourhood of St Paul's, Brazil *, by Mr WOODFORDE, so long ago as the year 1810. It blossomed there in 1811, and has done so every year since; and from it Mr SHEPHERD believes have originated all the individuals that now exist in other collections.

Our drawing was made from a fine specimen communicated by our liberal friends the Messrs SHEPHERDS, in the month of September.

Fig. 1. Lip. Fig. 2. Column. Fig. 3. Anther-case from the pollen-masses, Fig. 4. have been removed.—Figs. 3. & 4. *slightly magnified.*

---

* Along with *Gomesa recurva*, *Bromelia pallida*, *Amaryllis psittacina*, *crocata*, *striatifolia*, and *Marica cærulea*.

1

2

3

4

5

6

Vanda recurva

VANDA RECURVA.

Recurved Vanda.

GYNANDRIA MONANDRIA.—NAT. ORD. *ORCHIDEÆ.*

GEN. CHAR.—*Labellum* calcaratum, cum basi simplici (breviusve producta), columnæ apteræ continuum, trifidum, lobo medio carnoso. *Petala* patentia, distincta. *Massæ pollinis* 2, obliqua biloba.—BR.

Vanda *recurva;* foliis lineari-lanceolatis, pedunculis oppositifoliis laxe spicatis recurvis, labello concavo tridentato.

Saccanthus rostratus, LINDL. *Coll. Bot. ined.*

Vanda rostrata, LODD. *Bot. Cab.* t. 1008.

Stem in our plants about 8 inches high, brownish-green, spotted obscurely with purple, subcompressed, sending out here and there simple, flexuose, thick roots from near the base. *Leaves* alternate, remote, jointed as it were upon the vagina, subdistichous, linear-lanceolate, thick and fleshy, acute at the point.

Peduncle about 4 inches long, springing from that point of the stem immediately opposite to the insertion of a leaf, deflexed, waved, naked at the base, or only beset with a few small scales or bracteæ, the rest bearing many *flowers,* constituting a small spike or raceme. Each flower has a minute bractea at its base. *Petals* 5, oval, concave, spreading, equal, reddish-brown, with a broad line in the centre, and the margins of a yellow colour, paler externally. The *Lip* is about equal in size to the petals, thick, fleshy, very concave, rose-coloured, with three sharp lobes or teeth, which are singularly incurved; at the base below, the lip is protruded into a large hollow spur or pouch of the same colour, and which is nearly equal in length with the germen. *Column* short, white, with two teeth at the base within, a hollow gland or stigma in the front, and which, on the top, is crowned with the operculiform, acuminated, white anther-case. The top of the *stigma* has an acuminated process, corresponding with that of the anther-case. *Pollen-masses* 2, deep yellow, obliquely, and so deeply 2-lobed, as to appear four distinct masses: these are attached to one end of a filiform stalk, while the other extremity has a small gland, by means of which it is attached to the process forming the top of the stigma. *Germen* linear-filiform, nearly white, resembling a pedicel.

This charming little plant was communicated by the Horticultural Society (who probably received it from China or India) to our Garden, where it blossomed in a warm stove in October 1825. Whether or not the *Aërides paniculatum* of Bot. Reg. p. 220. be a congener with *Vanda Roxburghii*, it most unquestionably is with the present plant; and it appears to me, that, both in habit and essential characters, they may all be included in Mr Brown's genus *Vanda* *.

From *Aërid. paniculatum* our plant differs, in its much smaller size, acutely-pointed leaves, reflexed spikes (not panicle), and in the colour of the lip and spur, which is here rose-coloured, whilst in the other it is represented yellow.

Fig. 1. Side view of a flower. Fig. 2. Front view of ditto. Fig. 3. Column, lip and spur, the petals and germen being removed. Fig. 4. Front view of the column, with the anther-case (Fig. 5.) removed. Fig. 6. Pollen-masses, with their footstalk and gland.—*All more or less magnified.*

---

* Whilst this sheet was in the press, and too late to alter the name upon the Plate, I am informed by my friend Mr Sabine, that this plant will be called *Saccanthus rostratus* by Mr Lindley in his *Collectanea Botanica*, which name is consequently to be retained. Mr Loddiges, too, has figured it as *Vanda rostrata*, which is probably the MS. name of Mr Lindley.

Dalbergia Barclayi

DALBERGIA Barclayii.

Mr Barclay's Dalbergia.

DIADELPHIA DECANDRIA.—Nat. Ord. *LEGUMINOSÆ.*

Gen. Char.—*Cal.* obsoleto dentatus. *Legumen* foliaceum planum non dehiscens. *Semina* solitaria vel bina.—Willd.

Dalbergia *Barclayii*; foliis pinnatis, foliolis lineari-lanceolatis marginibus revolutis, subtus sericeis, racemo terminali elongato, calycibus sericeis dentibus subulatis, vexillo dorso sericeo.

Dalbergia Barclayii, Telfair, MSS.

Stem erect, branches pilose. *Leaves* pinnated, with an odd one. *Leaflets* linear-lanceolate, from one to two inches long, more or less obtuse, sometimes mucronated, upon extremely short, pubescent, partial petioles, the under side silky, and having the margins revolute; the upper side glabrous, dark green. *Stipules* small, subulate, hairy.

Racemes elongated, terminal. *Flowers* two or three together, sometimes verticillate. *Pedicels* short, silky. *Calyx* obtuse at the base, very silky, 5-toothed, teeth nearly equal, subulate. *Vexillum* large, reflexed, purple, silky on the back. *Alæ* and *carina* glabrous, pale purple, the latter the longest. *Stamens* 10, monadelphous. *Pistil* rather longer than the stamens. *Germen* linear, hairy; *style* filiform, glabrous, white. *Stigma* capitate.

Discovered in the Island of Madagascar by Messrs Helsinborg and Bojer. Seeds were communicated from the Mauritius by Charles Telfair, Esq. to our mutual friend Mr Barclay, in whose stove at Bury Hill it blossomed in October 1825. Mr Telfair expressed a desire that it should bear the name of *Barclayii*; and I am happy that it has fallen to my lot thus to commemorate an individual who has done so much towards introducing new and rare plants into this country, particularly those of Madagascar.

The species seems to be liable to some variation. Our dried specimens from Madagascar are much shorter, and more

compact than the cultivated one, and more silky. Another specimen, again, which Mr TELFAIR assures me Messrs HELSINBORG and BOJER considered only a variety of this, has the leaves broader, less silky beneath, and the racemes of flowers more compact.

The drawing of the natural size in the accompanying plate, was made at Bury Hill by Mr DUNCOMBE.

Fig. 1. Flower. Fig. 2. One of the Alæ. Fig. 3. Carina. Fig. 4. Stamens inclosing the pistil. Fig. 5. Pistil.—*All more or less magnified*

5
1
6
2
3
4

GRÆMIA AROMATICA.

South American Chamomile.

SYNGENESIA POLYGAMIA ÆQUALIS.—NAT. ORD. *COMPOSITÆ, Juss.* ANTHEMIDEÆ, *Cass.*

GEN. CHAR.—*Involucrum* e foliolis linearibus, laxis, demum reflexis. *Receptaculum* ovatum tuberculatum, paleaceum. *Flosculi* ovati, subinflati. *Achenia* squamis 5–7, membranaceis, aristatis coronata. *Capitula* exacte sphærica.

Græmia *aromatica;* annua, ramosa, glutinosa, foliis lanceolatis semiamplexicaulibus undulato-dentatis inferioribus pinnatifidis.

Root small, annual. Whole *plant* sprinkled with excessively minute, glandular, yellow dots, which give out a powerful odour, and render it glutinous to the touch, particularly when pressed. *Stem* about a foot high in the largest specimens, slender, much branched, branches nearly erect, striated, glabrous. *Leaves* scattered, 2–3 inches long, below pinnatifid, with remote segments; above lanceolate, toothed and waved, at the base semiamplexicaul.

Flowers solitary, terminal, exactly spherical, and about the size of the fruit of the Wood Strawberry. *Involucre* of 8 or 10 linear leaflets, glandular on the outside, spreading and lax, soon reflexed. *Florets*, all of them tubular and perfect, much crowded. *Corollules* ovate, inflated, yellow, clothed with viscid, glandular hairs; the mouth has 5 connivent teeth. *Stamens* 5, bidentate at the base of the anthers, included. *Style* filiform, as long as the corollule. *Stigma* bipartite, the segments spreading over the mouth of the corollule, plane above, glandular at the extremity. *Fruit* or *Achenium* oblong, hairy, especially at the angles, which are prominent, crowned at the summit with from 5–7 large, pure white, delicately fimbriated, membranaceous, aristate scales. *Receptacles* ovate, tuberculated, chaffy; the *scales* small, linear, deciduous.

Seeds of this interesting plant were kindly communicated to me, along with many others, in the spring of 1824, by Mrs MARIA GRAHAM, on her return from Chili, where they were gathered during some of the excursions made by that Lady in various provinces; perhaps at Quintero, just as she was on the point of quitting the country, where, as she says in her amusing and instructive account of her sojourn, "we gathered many seeds and roots, which I hope to see springing up in my own

land, to remind me of this, where I have met with a kindness and a hospitality never to be forgotten *."

The particular seeds were marked as being " called *Mançanilla*, and as having the smell of Chamomile;" and assuredly the odour is exactly similar, or rather more powerfully fragrant. The plant might probably with advantage be cultivated and used instead of that valuable herb in this country. We have now raised it in our garden for two years, and can speak with confidence of its being a hardy annual, ripening abundance of seeds in the autumn.

With regard to the genus of the present plant, it comes nearest, perhaps, to *Santolina*; but in characters it neither accords with that nor any other that I can find described; and I have been induced to constitute of it a new genus, *Græmia*, a name which will thus serve to commemorate the Lady to whom we are indebted for the introduction and knowledge of the individual, no less than of my valued friend Dr Robert Graham, Professor of Botany in the University of Edinburgh.

In the same genus will rank the *Santolina tinctoria* of Molina, the " *Santolinoydes, Linariæ folio, flore aureo*, &c. of Feuillee, Obs. v. 3. t. 45. p. 61. which accords with this in habit. It has, however, a perennial root, from which a number of simple stems proceed, bearing linear leaves, which are quite entire, and taper down into a sort of footstalk at the base. The head of flowers is exactly similar, but more distinctly hairy and glandular, and the scales of the fruit are less decidedly fringed. This species is employed by the Chilians to yield an excellent yellow dye, and universally known to them by the name of *Poquil*. I possess specimens gathered by my friend Mr Menzies at Chili, which exactly accord with Feuillee's figure.

Fig. 1. Heads of flowers. Fig. 2. Single floscule. Fig. 3. Scale of the Germen in fruit. Fig. 4. Stamens, upper part of the style and stigma. Fig. 5. Receptacle, from which most of the florets have fallen. Fig. 6. Fruit. Fig. 7. Lower leaf.—*All but* Fig. 7. *more or less magnified*.

---

* Mrs Graham, who has returned to England from her second visit to South America since the above was printed, confirms the circumstance of the seeds being gathered at *Quintero*, " about thirty miles from Valparaiso, growing in blackish shining sand, with the short-stalked longflowered *Evening Primrose*, a pretty dwarf *Torch-thistle*, and the *Sea-Strawberry*."—" The name *Mançanilla*," she adds, " is given to this plant, from a fancied resemblance to the smell of apples. Hence also the true *Chamomile* is called *Mançanilla* of Castile, being introduced from that country, and cultivated in Chili."

Heliconia brasiliensis

HELICONIA BRAZILIENSIS.

Brazilian Heliconia.

PENTANDRIA (v. POTIUS HEXANDRIA) MONOGYNIA.—NAT. ORD. *MUSACEÆ.*

GEN. CHAR.—*Spathæ* universales et partiales. *Perianthium* 6-partitum; segmenta tria; *interiora* fere ad apicem unita convoluta. *Filamentum* sextum abortum squamiforme. *Capsula* infera, trilocularis, trivalvis. *Semina* solitaria.

Heliconia *braziliensis*; foliis ovato-lanceolatis, acutis, basi cordatis, spathis universalibus patentibus paucis subdistantibus distichis (coccineis.)

Plant everywhere glabrous, about 7 or 8 feet high, with a short stem, which is clothed with the long sheathing bases of the petiols. *Leaf-stalks* 2–3 feet long, cylindrical, shining. *Leaves*, the lowermost ones 2 feet, the upper ones 8–10 inches in length; all of them ovato- or oblongo-lanceolate, cordate at the base, very acute, scarcely acuminate at the extremity, marked with several parallel and obliquely transverse nerves, with numerous smaller ones between them: above of a deep and almost velvety green, paler beneath.

Flowering-stem scarcely so high as the leaves, terminated above by a few (5–6) distichous, spreading, elongated, cymbiform and acuminated deep reddish *spathas*, attached to a zig-zag *rachis*. The lower *spatha* is lengthened out into a greenish leafy extremity, and is abortive; the rest include in their swollen base a fascicle of sessile green flowers, 7–8 in number, each subtended by an ovato-lanceolate, concave, reddish bractea or inner spatha, about half its length. *Perianth* of 6 linear-lanceolate, acute, segments, of which the three outer are erecto-patent, curved, the inner, or that next the rachis, being the largest, carinate at the back, embracing with its base the lower part of the two smaller and narrower ones, and which are flattened on the back, and compressed on the sides, so as to be triquetrous. The 3 inner segments are united together for nearly the whole length (the points alone being free), and convolute, and embracing the stamens and style. *Stamens:* of these 5 are perfect, rather longer than the perianth, and inserted at the base of its united inner segments: the sixth is opposite to these, and has no attachment to the inner segment of the perianth, but is inclosed within its convolute base; it is abortive, and forms an erect, whitish, oblong scale,

tipped with a short mucro. *Pistil:* *Germen* inferior, triangular, tapering downwards, containing 3 cells. *Style* about as long as the filaments, white, slender, but broadest in the middle, compressed, and triquetrous. *Stigma* obtuse.

This fine plant was sent to me from the stove of the Liverpool Botanic Garden by Messrs SHEPHERD, who received it from Mr AITON, marked as a native of Brazil. The species to which, as far as I can judge from figures and descriptions, it is most nearly allied are *H. caribæa* (PLUM. t. 59.), and the *H. Bihai* of LINN. Mant.: from the former, however, differing in having the extremity of the leaves acute; from the latter, in having the base obtuse, and even cordate, as well as in the colour of the universal spathas.

Sir JAMES SMITH seems to me to have taken an excellent view of the structure of the flowers of this plant, in considering the smaller nectary of JUSSIEU an abortive stamen, and the larger one as an inner portion of the perianth. It is, however, evidently composed of 3 segments, united for nearly the whole length: thus, we have the ternary number, both in the floral covering and in the stamens, which is so common in the monocotyledonous plants.

Fig. 1. Cluster of flowers removed from the universal spatha. Fig. 2. Inner segments of the perianth, with the 5 perfect stamens. Fig. 3. Flower from which the two smaller of the outer and the three inner segments have been removed, with the perfect stamens, the abortive squamiform stamen remaining. Fig. 4. The squamiform stamen. Fig. 5. Portion of the style. Fig. 7. Back view; and Fig. 8. Front view of the anthers and flowers, the perianth being removed.—*All more or less magnified.*

Ruellia anisophylla

RUELLIA ANISOPHYLLA.

Unequal-leaved Ruellia.

DIDYNAMIA ANGIOSPERMIA.—Nat. Ord. *ACANTHACEÆ.*

Gen. Char.—*Cal.* 5-partitus (nunc profunde 5-fidus), æqualis. *Corolla* infundibuliformis, limbo 5-fido, parum inæquali, patenti. *Stamina* 4, antherifera, inclusa: *Antheræ* loculis parallelis muticis. *Ovarii* loculi polyspermi. *Capsula* teretiuscula subsessilis, dissepimento adnato. *Semina* retinaculis subtensa.

Herbæ *oppositifoliæ, caulescentes, sæpe pilosæ.* Flores *axillares vel terminales.* —Br.

Ruellia *anisophylla*; glabra, foliis breviter petiolatis distichis oblongis valde acuminatis serratis, singulo opposito alternatim abortivo. Floribus capitatis, caule acutangulo.

Ruellia anisophylla, Wallich, MSS.

Perennial, with a zig-zag, branched, green, acutely quadrangular, glabrous *stem*, about a foot high in our plant. *Leaves* 3–4 inches long, very shortly petiolate, distichous, oblong, acute at the base, very much attenuated at the extremity, serrated at the margin, glabrous, above dark green, with prominent veins, below paler, the veins sunk in the substance of the leaf: one of each pair of opposite leaves is constantly abortive, and seems to be little more than a lanceolate bractea at the base of an abortive flower-stalk. *Fertile flower-stalks* from the axil of the fully developed leaf, and leaning to the underside, much shorter than the leaves, quadrangular, with one or two (when two, the lower one sessile) small heads of flowers, of which 2 or 3 are expanded at a time. *Calyx* small, deeply 5-fid, pubescent, the segments narrow: each is subtended by 3 bracteæ, two lateral, and one, the larger one, in front; these are lanceolate. *Corolla* large, handsome, pubescent externally, and veined, narrow, and yellow at the base, above enlarged, pale bluish-purple, showy, the mouth spreading, 5-lobed, lobes somewhat irregular, crenate at the margin. *Stamens* 4, didynamous, all perfect. *Filaments* white, thick, adnate with the corolla for almost their whole length, pubescent at the base, the extremity curved and swollen, bearing a 2-lobed anther; each lobe acute, somewhat spreading, opening transversely, yellowish-white. *Pistil*: *Germen* oblong, small. *Style* long, slender, filiform, slightly thickened upwards. *Stigma* acute.

We received this singular plant at our Botanic Garden from Mr MACKAY, nurseryman, Islington, to whom it was sent from the Calcutta Botanic Garden. I have native specimens from Nepal, bearing the appropriate MS. name of *Ruellia anisophylla* of WALLICH. The appearance of the plant is most singular for one of its natural family; one of each alternate pair of leaves being so small, as to be scarcely perceptible; and the fully formed ones having no inconsiderable resemblance to those of a *Celtis*.

The flowers are large and handsome, and produced freely from the axils of the leaves in the months of September and October, in the stove of our Botanic Garden.

Figs. 1, 2. Flowers. Fig. 3. Calyx, from which the side and front bracteæ (Figs. 4, 4, 5.) have been removed. Fig. 6. Upper part of a corolla torn open, to shew the situation of the stamens. Fig. 7. Stamens and style. Fig. 8. Anther.—*All but* Figs. 1. & 2. *more or less magnified.*

Andromeda arborea.

ANDROMEDA SALICIFOLIA.

Willow-leaved Andromeda, or Wild Arbutus.

DECANDRIA MONOGYNIA.—NAT. ORD. *ERICEÆ.*

GEN. CHAR.—*Cal.* 5-partitus. *Cor.* ovata, ore quinquefido. *Capsula* supera, quinque-locularis, dissepimentis e medio valvarum.

Andromeda *salicifolia;* racemis secundis glabris, foliis lanceolatis basi apiceque attenuatis subtus albidis.

Andromeda salicifolia, COMMERS, MSS.—LAM. *Encycl.* v. i. p. 159.—SMITH, *Ic.* ined. t. 58.—WILLD. *Sp. Pl.* v. ii. p. 611.

Shrubby, much branched, glabrous in all its parts. *Leaves* numerous, alternate, 2–4 inches long, rigid, coriaceous, lanceolate, but varying considerably in breadth in different specimens, acuminated, quite entire, attenuated at the base into a footstalk, which is from half an inch to an inch in length, dark green above, pale, and almost white beneath: there is a central rib, and two obscure depressed lines, one on each side, running parallel with it.

Racemes terminal, 4–6 inches long. *Flowers* rather large, handsome, secund, drooping. *Pedicels* about as long as the flower, subtended by a minute scale or bractea. *Calyx* deeply 5-fid; the segments broadly ovate. *Corolla* ovate, or oblongo-ovate, of a beautiful purple colour, the mouth contracted, 5-toothed. *Stamens* 8. *Filaments* erect: *Anthers* with a pore at the extremity of each cell. *Germen* 5-lobed. *Style* shorter than the corolla: *stigma* obtuse. *Capsule* very hard, coriaceous, opening with 5 valves, each valve bearing the dissepiment in the middle, which dissepiment alternates with the lobes of the central seminal receptacle: hence it is 5-celled. The lobes of the receptacle are covered with numerous, small, oblong, curved brownish seeds, and are crowned with the persistent style.

For the opportunity of figuring this charming plant, I am indebted to CHARLES TELFAIR, Esq. of the Mauritius, who was so good as to send me a coloured drawing by Mrs TELFAIR, together with numerous fine specimens, in various stages of fructification. COMMERSON is the first botanist who

detected this plant in the Mauritius. In the wood of Belombre, in the same island (where the plant is known by the name of *Wild Arbutus*), our specimens here figured were gathered. I have others, with which I have been favoured by Mr TELFAIR, which were gathered by the indefatigable botanists HELSINBORG and BOJER in mountainous places, on the banks of rivers, in the province of Emirne, Madagascar.

Fig. 1. Flower. Fig. 2. Stamen. Fig. 3. Capsule cut through tranversely. Fig. 4. Capsule, with the valves forced back farther than they open naturally, in order to shew the dissepiment and seeds, as attached to the lobes of the receptacle.—*More or less magnified.*

Abronia arenaria

ABRONIA ARENARIA.

Sea-side Abronia.

PENTANDRIA MONOGYNIA.—NAT. ORD. *NYCTAGINEÆ, Juss.*

GEN. CHAR.—*Perianthium* simplex, subhypocrateriforme, limbo 5-partito, basi tumido angulato. *Staminum Filamenta 5*, basi coalita in vaginulam hypogynam brevissimam, ultra agglutinata tubo perianthii coarctato, supra libera: *Antheræ* oblongæ, inclusæ. *Germen* 1, vaginula staminifera infra cinctum, in tumida perianthii basi. *Stylus* 1. *Stigma* incrassatum. *Achenium* 1, perianthio 5-angulari tectum.

Herbacea. Folia *opposita, petiolata simplicia.* Pedunculi *axillares.* Flores *capitati involucrati.*

Abronia *arenaria;* foliis cordatis.

Abronia arenaria, MENZIES, MSS.

Stem procumbent, terete, branched, succulent, brownish, viscid, the upper part pubescent. *Leaves* rather distantly placed, in opposite pairs, petiolate, broadly cordate, thick and fleshy, quite entire, nerved, the young ones pubescent. *Petiole* scarcely so long as the leaves, rounded.

Flowers in rather dense heads, about an inch in diameter, enclosed in a 5-leaved involucre, of which the leaflets are ovate, green, shorter than the flowers, terminating an axillary pubescent peduncle, which is about as long as the leaves. *Perianth* three-fourths of an inch long. *Tube* long, greenish, pubescent, enlarged and 5-angled at the base; limb spreading, yellow: segments 5, obtuse, waved: base tumid, 5-angled. *Stamens* within the tube. *Filaments*, 2 short and 3 longer, free at their upper part, the middle incorporated with the tube of the perianth; below free, uniting at the very base into a membranous cup surrounding the germen: *Anthers* oblong, fixed by their back to the top of the filaments. *Pistil* shorter than the tube. *Germen* ovate. *Style* filiform. *Stigma* thickened, villose. *Achenia* ovate, enclosed by the enlarged, acutely 5-angled obovate base of the perianth, and at its base by the united bases of the stamens, resembling a 5-toothed cup.

The only knowledge we have hitherto possessed of the genus of this plant, has been from individuals raised in the Bo-

tanic Garden of Paris, from seeds gathered during the voyage of La Peyrouse by the gardener Colignon, on the coast of California. That species, which appears to be the one given in the following plate, gave rise to Jussieu's Genus *Abronia*, and was described in the Appendix to the Genera Plantarum. L'Heritier, afterwards, as it appears, figured and described that plant as *Tricatus admirabilis* (*Abr. umbellata*, Lam.) Mr Menzies had the good fortune, in his voyage with Captain Vancouver, to find in the same country a second species of the genus, the one here represented, from a drawing made by that gentleman on the native spot, to which I have merely added dissections from the dried specimens.

It grows entirely among sand, upon the coast; turns almost black, and apparently, from its viscid nature, is half-covered with sand when dry. It differs in the colour of its flowers, and more remarkably in the form of the leaves, from *A. umbellata*.

I regret that I have not been able to figure perfectly formed *achenia*, or dissections of the seed.

Fig. 1. Flower. Fig. 2. Inside of a portion of the perianth, to shew the upper part of the stamens. Fig. 3. Perianth, with the base cut open, to shew the base of the stamens, forming a cup around the Germen. Fig. 4. Pistil. Fig. 5. Anther. Fig. 6. Young fruit enveloped in the persistent base of the perianth. Fig. 7. Young Achenium, with the surrounding base of the stamens. Fig. 8. Achenium.—*All more or less magnified.*

Abronia umbellata.

A. Menzies Esqr. delt.

ABRONIA UMBELLATA.

Rose-coloured Abronia.

PENTANDRIA MONOGYNIA.—NAT. ORD. *NYCTAGINEÆ, Juss.*

GEN. CHAR.—*Perianthium* simplex, subhypocrateriforme, limbo 5-partito, basi tumido angulato. *Staminum Filamenta* 5, basi coalita in vaginulam hypogynam brevissimam, ultra agglutinata tubo perianthii coarctato, supra libera: *Antheræ* oblongæ, inclusæ. *Germen* 1, vaginula staminifera infra cinctum, in tumida perianthii basi. *Stylus* 1. *Stigma* incrassatum. *Achenium* 1, perianthio 5-angulari tectum.

Herbacea. Folia *opposita, petiolata simplicia.* Pedunculi *axillares.* Flores *capitati involucrati.*

Abronia *umbellata*; foliis oblongo-ovatis.

Arbronia umbellata, LAM. *Ill.* v. i. p. 469. t. 105.—PERS. *Syn. Pl.* v. i. p. 176.
Abronia glauca, MENZIES, MSS.
Tricratus admirabilis, " L'HERIT. *Monogr. Ic.*"—WILLD. *Sp. Pl.* v. i. p. 807.

This has very much the general habit of *Abronia arenaria*, but appears to be quite destitute of pubescence, although, if we may judge from the sand adhering to the stems, it is equally glutinous with that species. The leaves afford the most essential specific character; for here they are ovate or oblong, not by any means cordate, somewhat acute both at the base and the extremity. The flowers, too, besides being somewhat larger, are of a fine rose colour, with a white eye in the centre. The seedvessels, according to LAMARCK's figure, are longer and narrower.

This seems sufficiently to accord with the figure and description of LAMARCK's *Abronia umbellata*, which is probably a copy of L'HERITIER's plate. Sir JAMES SMITH considers that this plant was perhaps the only fruit of LA PEYROUSE's unfortunate expedition: the seeds, as is related under *A. arenaria*, having been sent to Europe by M. COLIGNON, gardener

on board La Peyrouse's vessel, and cultivated in the Paris Botanic Garden in 1788.

Mr Menzies gathered both species in California, and made drawings of them from the recent plant. The dried specimens, from their highly succulent nature, lose all their characters, and turn almost black.

Thunbergia coccinea

THUNBERGIA COCCINEA.

Scarlet-flowered Thunbergia.

DIDYNAMIA ANGIOSPERMIA.—NAT. ORD. *ACANTHACEÆ.*

GEN. CHAR.—*Cal.* duplex: *ext.* diphyllus: *int.* (subduodecim?) dentatus. *Cor.* campanulata. *Capsula* rostrata bilocularis.

Thunbergia *coccinea*; foliis cordato-angulatis, floralibus integerrimis; floribus racemosis, ore obliquo, limbo reflexo, pedicellis aggregatis, caule volubili.

Thunbergia coccinea, WALLICH, MSS.—GRAHAM, *in Jameson's Edin. Phil. Journ.* No. xxvii. p. 150.

Stems many, from the same root, glabrous, as is the whole plant, branching from the base, with the branches axillary, opposite, slightly swollen at the joints, climbing to a great height, and twining from left to right, green, rounded. *Leaves* opposite, petioled, delicate light green, paler beneath, oblongo-cordate, or even hastate at the base, shortly acuminate at the extremity, 5-nerved, and veined: *petiole* scarcely half so long as the leaf, channelled above. *Flowering branches* 1–2 feet long, pendent, their leaves gradually diminishing in size towards the extremity, nearly ovato-acuminate and entire.

Racemes long, terminal, interrupted, secund. *Pedicels* two-thirds of the length of the flowers, two, three, or more, arising in clusters from each floral leaf or bractea, stout, and swelling slightly upwards. *Outer calyx* as long as the tube of the corolla, of two large, ovate, purplish-brown, striated leaflets, united on one side, so as to form a sharply keeled cymbiform sheath or spatha, deciduous. *Inner calyx* very small, cup-shaped green, scarcely toothed at the margin. *Corolla* tubular (scarcely campanulate), the tube pale red, secreting a large quantity of honey, dilated, compressed and oblique at the mouth, within yellow; the limb bright red, 5-cleft, the segments obtuse, closely reflexed over the tube and outer calyx. *Stamens* included: *filaments* inserted near the base, stout, red, compressed, tapering upwards. *Anthers* large, sagittate, yellow, the base on each side (which is hairy) running down into a reddish-purple spur: between the four stamens is a subulate process, probably a fifth abortive stamen. *Germen* ovate, surrounded by a large fleshy disk or ring. *Style* longer than the stamens, filiform. *Stigma* capitate, notched.

Beautiful specimens of this plant, together with the charming drawing by Dr GREVILLE (which is here engraved) were communicated to me in the month of December last (1825) by Dr GRAHAM, from the stove of the Royal Botanic Garden of Edinburgh. The seeds were received from the Calcutta Botanic Garden, but without any history of the plant; and the only description hitherto published, is that by Dr GRAHAM himself in the Edinburgh Philosophical Journal above quoted, from which excellent account I have compiled much of that here given.

This is by far the most showy species of the genus we know, the brilliant red flowers of the graceful racemes forming a fine contrast with the delicate green of the leaves. The other hitherto known species of *Thunbergia* have solitary and axillary flowers, and a distinctly two-leaved outer calyx. In the structure of its calyx, our plant approaches the *Thunbergia grandiflora* of Dr ROXBURGH, and Bot. Reg. t. 495.

Fig. 1. Outer and inner calyx, glandular disk and germen (the style having fallen off). Fig. 2. Pistil and corolla cut open, to shew the insertion of the stamens. Fig. 3. Anther. Fig. 4. Stigma. Fig. 5. Section of the germen.—*All but* Figs. 1. & 2. *magnified.*

2

1

Isorchilus graminoides

ISOCHILUS GRAMINOIDES.

Grass-like Isochilus.

GYNANDRIA MONANDRIA.—NAT. ORD. *ORCHIDEÆ.*

GEN. CHAR.—*Labellum* petalis distinctis conniventibus subconforme. *Massæ pollinis* 4, parallelæ.—*Br.*

Isochilus *graminoides*; petalis ovato-acuminati sconcavis, labello flabelliformi, pedicellis solitariis, capsulis glabris, caule compresso, foliis distichis lineari-lanceolatis.

Epidendrum graminoides, Sw. *Prodr.* p. 125.
Cymbidium graminoides, Sw. *Fl. Ind. Occ.* p. 1459.—WILLD. *Sp. Pl.* v. iv. p. 96.

Parasitic. *Root* of several waved, fleshy, simple fibres. *Stem* 4–5 inches long, simple, compressed, clothed with the sheathing bases of the leaves. *Leaves* distichous, rather closely placed, linear-lanceolate, single-nerved, acute, sheathing at the base; the sheaths compressed, equitant. *Flowers* solitary from the axils of the leaves, upon curved, slender, bracteated pedicels, bracteæ sheathing. *Flowers* inclined. *Petals* distinct, nearly equal in size, subconnivent, ovate, concave, shortly acuminate, 3-nerved, greenish-white. *Labellum* about equal in length with the petals, concave, curved upwards towards the column, subunguiculate, flabelliform, yellowish-green, obscurely veined. *Germen* subovate, striated, concealed by the upper sheathing bracteæ. *Column* short. The anthers I have not seen.

If, as I have reason to believe from the description, this is the plant that SWARTZ has called *Cymbidium graminoides*, it is an inhabitant of trees in the mountainous parts of Jamaica. My friend C. S. PARKER, Esq. found it in similar situations in the Island of Trinidad; and it is from his specimens, preserved in spirits, that I have made the accompanying figure.

I am not aware that it has yet been introduced into the stoves of our gardens.

Fig. 1. Side view of a flower. Fig. 2. Front view, with the perianth forced open, to shew more distinctly the form of the different parts:—*magnified.*

Pleurothallis ruscifolia

PLEUROTHALLIS RUSCIFOLIA.

Ruscus-like Pleurothallis.

GYNANDRIA MONANDRIA.—NAT. ORD. *ORCHIDEÆ.*

GEN. CHAR.—*Labellum* articulatim connexum cum basi simplici vel brevissime producta columnæ. *Petala* 2, antica exteriorum inferne connata. *Massæ pollinis* 2, exsulcæ.—*Br.*

Pleurothallis *ruscifolia;* caule elongato unifolio, folio ovato-lanceolato, floribus in sinu folii aggregatis.—*Br.*

Pleurothallis ruscifolia, BR. *in Hort. Kew.* v. 5. p. 211.
Dendrobium ruscifolium, WILLD. *Sp. Pl.* v. iv. p. 135.
Epidendrum ruscifolium, JACQ. *Amer.* p. 226. t. 133. f. 3.—LINN. *Sp. Pl.* p. 1353.
Helleborine Rusci majoris folio, PLUM. *Sp.* 1. 176. f. 2.

Parasitic; throwing out from its base many simple, whitish, waved, fibrous roots. *Stem* 7–8 inches high, slender, erect, filiform, having 3 or 4 sheathing scales, jointed at the extremity, where it is terminated by an oblongo-lanceolate, somewhat recurved, subcoriaceous, nerveless, solitary leaf: from the axil of this leaf is seen to arise 2 large ovato-cordate, opposite bracteæ, enclosing 3 or 4 simple or forked slender peduncles, scarcely an inch long, and each furnished with 2 or 3 small bracteæ.

Flower small, pale yellow-green, erect. *Petals* connivent; the three outer ones linear-lanceolate: uppermost one 3-nerved; two anterior ones united, so as to form a single 4-nerved petal: two lateral *petals* small, linear, single-nerved. *Lip* small, lanceolate-entire, undulate. *Column* very small. *Germen* clavate.

This was likewise gathered by Mr C. S. PARKER in Trinidad, and being preserved in spirits, I have been enabled to make the accompanying figure.

We have living plants of it in our Garden, which were sent from the same island by the late Baron DE SCHACK; but they

have not yet flowered. The species has been found in Jamaica and Martinique.

Fig. 1. Flower. Fig. 2. Ditto, with the perianth forced open, to show the shape and relative situation of the different parts:—*magnified.*

2

1

3

4

5

Utricularia alpina

UTRICULARIA ALPINA.

Large-flowered alpine Bladder-root.

DIANDRIA MONOGYNIA.—NAT. ORD. *LENTIBULARIÆ.*

GEN. CHAR.—*Cal.* diphyllus, labiis æqualibus indivisis. *Corolla* personata, labio inferiore basi calcarata. *Stamina* 2, filamentis apice intus antheriferis. *Stigma* bilabiatum.

Utricularia *alpina;* corollæ labiis amplissimis planiusculis, inferiore majore cornu subulato paulum longiore, scapo uni- bifloro, foliis elliptico-lanceolatis petiolatis solitariis vel binis.

Utricularia alpina, LINN. *Sp. Pl.* p. 25.—WILLD. *Sp. Pl.* v. i. p. 111.
Utricularia montana, JACQ. *Amer.* p. 7. t. 6.—POIRET, *in Encycl. Bot.* v. viii. p. 268.
Utricularia unifolia, *Fl. Peruv.* v. i. p. 20. t. 34. f. *b.*
Utricularia grandiflora, PERS. *Syn. Pl.* v. i. p. 18.

Root consisting of rather thick horizontal fibres, here and there swollen into ovate fleshy tubers, which JACQUIN not unaptly compares to those of the potato, and beset with smaller radicles, abounding in minute pellucid vesicles. *Leaves* very bright green, single, or two together, erect, from 1–3 inches long, elliptical-lanceolate, coriaceous, obscurely veined, tapering gradually at the base into a footstalk about equal to itself in length.

Scape 6–10 inches long, erect, rounded, with a few distant bracteæ, bearing at the extremity 1 or 2 very large and handsome flowers. *Pedicel* about an inch long, with a bractea at its base. *Calyx* of 2 equal, ovato-cordate, plane lips or leaflets, cream-coloured, tinged with rose. *Corolla* divided almost to the base into 2 large, but unequal, nearly plane, yellowish-white, delicately membranaceous lips, waved at the margin, obscurely and obliquely striated, the lower one much the longest, having a remarkably inflated, deep yellow palate, which is hollow within, and is produced at the base into a large subulate horn, of about its own length. *Organs of fructification* very small, compared with the size of the flower. *Stamens* 2, united at the base, and springing from that side of the pistil which is next the lower lip. *Filaments* curved, so as almost to meet at the top, just beneath the stigma, clavate, white. *Anther* 1-celled, obliquely placed at the top of the filament. *Germen* globose, and, as well

as the short and thick *style*, glabrous. *Stigma* 2-lipped, the upper lip a small purplish tooth; the lower one large, greenish, curved downwards, and covering the top of the stamens.

This highly curious and beautiful plant has been long known as an inhabitant of mountainous places in Martinique, Montserrat, and Peru. The Rev. LANDSDOWN GUILDING sent me the same species from the Souffriére, in the island of St Vincent's; but it is to my excellent friend C. S. PARKER, Esq. that I am indebted for the means of giving an accurate figure and description of it, from specimens preserved in spirits, and others dried with great care, as well as from notes made on the spot, both in Trinidad and Grenada. In the former island, Mr PARKER found it in a northern exposure, upon the decayed trunks of trees, in moss (*Orthotrichum*), on the summit of the most elevated point in Trinidad, estimated at 2800 feet above the level of the sea; and at the latter, on the road leading to Grand Etang, at an elevation of 2000 feet above the level of the sea, among terrestrial mosses, in a very exposed situation. This, therefore, notwithstanding that it has bladders like the aquatic species of the genus, does not appear to have been found actually in water. JACQUIN says it inhabits the highest mountains of Martinique, " in loco pratensi udo et aprico." Perhaps, like *Polygonum amphibium*, &c. it may be destined to live either in water or upon land.

JACQUIN's figure, though coarsely executed, is tolerably accurate; but the bladders of the root are omitted. RUIZ and PAVON's only exhibit the calyx of the flower; and neither has any details.

POIRET's *Utricularia montana* seems to be exactly the present plant.

Fig. 1. Corolla with the lips forced open. Fig. 2. The lower lip, scarcely magnified. Fig. 3. Stamens and Pistil. Fig. 4. Pistil. Fig. 5. Stamens.—*More or less magnified.*

Solanum Anguivi

J. Swan Sculpt. Norw.

SOLANUM Anguivi.

Madagascar Potato.

PENTANDRIA MONOGYNIA.—Nat. Ord. *SOLANEÆ.*

Gen. Char.—*Cal.* 5–10-partitus. *Cor.* subrotata, 4–10-fidus. *Antheræ* conniventes apice poro gemino dehiscentes. *Bacca* 2–3–4-locularis, placentis septo adnatis. *Semina* glabra.

Solanum *Anguivi;* frutescens ubique stellato-tomentosum parce aculeatum, foliis geminis ovatis angulato-lobatis, racemis parvis, calycibus campanulatis 5-dentatis inermibus.

Solanum Anguivi, Lam. *Dict.* v. iv. p. 304.—*Ill. Gen.* No. 2375.—Duval, *Solan.* p. 227.

A low frutescent shrub, with straggling branches, tomentose, as is every other part of the plant, with short stellated pubescence: there are likewise a few short, curved, orange-coloured aculei upon the stems and petiols, and occasionally straight ones upon the nerves of the leaf. *Leaves* distantly placed, springing in pairs from the same point, 3–4 or 5 inches long, ovate, acute, angulato-lobate, with generally 2 very prominent, more or less acute, angles on each side, upon rather short footstalks.

Racemes axillary, springing alternately about half-way between each pair of leaves, short, subcorymbose, of 6–8 rather small white flowers. *Calyx* small, campanulate, 5-toothed, green. *Corolla* pubescent externally, 5-partite, the segments reflexed. *Stamens* 5, equal. *Filaments* very short; *Anthers* large, erect, connivent, each with two pores at the extremity. *Pistil: Germen* spherical, pale green; *Style* much longer than stamens; *Stigma* obtuse.

Gathered in the Island of Madagascar (where it was first discovered by Commerson) by Messrs Helsinger and Bojer, and dried specimens have been communicated to me, along with many other valuable plants of that country, by Mr Telfair. The same gentleman sent seeds to Mr Barclay, who, with his usual liberality, has made us partakers of this

hitherto little known plant. It has probably by this time blossomed in Mr BARCLAY's stove, as well as in that of our Botanic Garden.

The native specimens have longer leaves, stouter stems, and more numerous and stouter aculei, than the cultivated ones. These latter flowered in the early part of the month of November.

Fig. 1. Flower. Fig. 2. Calyx. Fig. 3. Pistil.—*Magnified.*

2

1

Crinum undulatum.

Ivan Sculp. Lespes.

CRINUM UNDULATUM.

Long-flowered American Crinum.

HEXANDRIA MONOGYNIA.—Nat. Ord. *AMARYLLIDEÆ.*

Gen. Char.—*Cor.* 6-partita, subregularis, laciniis apice uncinatis. *Stamina* recta, tubo inserta. *Caps.* 3-locularis.—*Spreng.*

Crinum *undulatum;* foliis lineari-lanceolatis canaliculatis, laciniis corollæ linearibus acutis marginibus undulatis, tubo longissimo curvato (demum erecto), scapo compresso.

A small-growing species of the genus, with a long-necked bulb. *Leaves* dark green, a foot and a half to two feet long, linear-lanceolate, somewhat attenuated, grooved, particularly towards the base. *Scape* shorter than the leaves, green, compressed. *Spatha* of 2 lanceolate-membranous, striated leaflets.

Umbel in the present specimen of 4 sessile, powerfully but not agreeably scented flowers. *Tube* 8 inches long, slender, triangular above, pale yellow-green, curved, after the full expansion of the flower (according to Mr Shepherd) erect; *limb* of 6 equal, lanceolate, pure white, grooved petals, waved at the margin, very acute at the point, and tipped with purple. *Stamens* 6, inserted at the base of each of the segments of the corolla: *Filaments* shorter than the segments, deep purple. *Anthers* linear, versatile, dark green, pollen yellow. *Germen* ovate, inferior. *Style* resembling the filaments of the stamens in form and colour. *Stigma* capitate.

This interesting species of the genus *Crinum*, has been introduced to the Liverpool Botanic Garden by Robert Hesketh, Esq. of Maranham, South America, from that country, through the medium of James Crosby, Esq. of Liverpool. It is well distinguished by the compressed scape, the great length of the tube of the flower, at first curved, afterwards erect, and the singularly crisped or waved margin of the segments of the perianth.

It blossomed in the stove of the Liverpool Garden about the middle of November.

Fig. 1. Stamen, with a segment of the corolla. Fig. 2. Portion of the style and stigma.—*Scarcely magnified.*

GLYCINE MOLLIS.

Soft-leaved Glycine.

DIADELPHIA DECANDRIA.—NAT. ORD. *LEGUMINOSÆ.*

GEN. CHAR.—*Cal.* bilabiatus. *Corollæ* carina apice vexillum reflectens.—*W.*

Glycine *mollis;* molliter pubescens, foliis ternatis ovato-rhombeis acutis, resinoso-punctatis racemis folio brevioribus, leguminibus acinaciformibus turgidis dispermis, caule volubili striato.

Stem twining, angular, pubescent. *Leaves* remotely placed, ternate, petiol 1–2 inches long: *leaflets* ovate, or orbicularly rhomboid, acute, clothed with a very fine and soft down, and sprinkled with minute resinous dots. The lateral leaflets are upon very short partial footstalks; the terminal upon a much longer one.

Flowers rather crowded, upon axillary pedunculated racemes, which are shorter than the leaves. *Pedicels* short. *Cal.* green, glabrous, obtuse, with 5 sharp teeth, of which the lower one is rather the longest. *Carina* broadly cordate, reflexed, orange-yellow. *Alæ* much shorter than the carina, deep yellow. *Carina* paler yellow, about as long as the keel. *Legumes* about an inch long, subacinaciform, turgid, glabrous, acuminated, 2-seeded.

Allied to the West Indian *Glycine caribæa,** of JACQUIN; but that has the leaves somewhat villous, more acute, the legumes hairy, and the racemes of flowers longer and less crowded.

* This, and our *Gl. mollis*, are now referred to *Rhynchosia* of LOUREIRO and DE CANDOLLE, a genus which I should here have adopted, had the 2d volume of the *Prodromus Syst. Nat.* in which it is established, reached me before the name upon the plate and in the letter-press had been printed. The genus *Rhynchosia* is thus characterized: "*Cal.* 5-fidus, subbilabiatus. *Corolla* papilionacea, sæpe calyce minor. *Stamina* diadelpha; *filamento* solitario basi geniculato. *Stylus* filiformis, sæpe varie flexus. *Legumen* sessile compressum bivalve 1-loculare subfalcatum dispermum.—Suffrutices *aut* Herbæ *scandentes.* Folia *rarius simplicia, sæpius 3-foliolata conjuga cum impari petiolato.* Flores *flavi axillares racemosi aut solitarii.*"

Our plant was gathered on the Island of Zanzibar, on the east coast of Africa, by Messrs HELSINGER and BOJER, and introduced by CHARLES TELFAIR, Esq. of the Mauritius, to Mr BARCLAY's Botanic Garden, Bury-hill, where it flowered during the summer of 1825.

Fig. 1. Flower. Fig. 2. One of the alæ. Fig. 3. The carina. Fig. 4. Stamen. Fig. 5. Pistil. Fig. 6. Legume. Fig. 7. Seeds.

1

2

3

4

5

Pyrostachys cærulea

PYCNOSTACHYS CŒRULEA.

Blue Pycnostachys.

DIDYNAMIA GYMNOSPERMIA.—NAT. ORD. *LABIATÆ.*

GEN. CHAR.—*Flores* densissime spicati, inferiores bracteati. *Calyx* tubo brevi subangulato, dentibus spinosis, æqualibus, sinubus involutis oram tegentibus. *Corolla* bilabiata, declinata, tubo longiusculo, labio inferiore longiore, ovato-concavo, integerrimo; superiore concaviusculo, trifido, lobo medio bifido. *Semina* (achenia) 4, rotundata compressa.

Pycnostachys *cærulea.*

Apparently annual or biennial. *Stem* erect, obtusely quadrangular, glabrous, with opposite branches. *Leaves* distant, lanceolate, attenuate at the base and the extremity, the upper and smaller ones entire, the rest deeply and coarsely serrated, except at the base, every where glabrous, nerved.

Flowers in very dense, terminal spikes, bright blue, upright in bud, remarkably declined when expanded; the lower ones having a few linear purplish bracteæ, sessile. *Calyx* with a short, obtusely pentangular tube, ending in 5 at length very much spreading spinulose teeth, the sinuses of which form so many involute, membranous portions or valves. *Corolla* much longer than the calyx. *Tube* rather long, white; upper lip (become so by the bending down of the flower), 3-lobed, the middle lobe bifid, the back slightly glandular: lower *lip* much the longest, bright blue, ovate, deeply concave, glandular on the under side, quite entire. *Stamens* inserted at the base of this lower lip, 4, didynamous, curved upwards. *Anthers* oval, 1-celled, bluish. *Germen* 4-lobed; *style* as long as the stamens; *stigma* bifid. *Seeds*, or *Achenia*, 4, oval, compressed, smooth, enclosed in the calyx, and concealed by the 5 valves, or inflexed margins of the sinuses of the calyx, at which time also the teeth of the calyx are very patent.

In the month of April of this year, 1825, when I had the pleasure of looking over some dried specimens of Madagascar plants with Mr BARCLAY at Bury-hill, we selected some seeds of a curious labiate species, which, under the skilful management of the gardener Mr CAMERON, produced, in the month

of August following, the individual from which the annexed figure was taken. The plants in the stove did not blossom, only those which, after having attained a certain growth, were planted in the open border.

We are indebted for the discovery of this plant to Messrs Helsinger and Bojer, who found it at Ramssina, in the province of Emirna, Madagascar, and to Charles Telfair, Esq. of the Mauritius, for its introduction to our gardens. In the structure of the flower, it has some affinity with *Hyptis*, but it seems to me to be abundantly different from that and every other described genus. Hence I have named it from the circumstance of its densely crowded spikes of flowers.

Fig. 1. Flower in its natural position. Fig. 2. Corolla cut open, to shew the insertion of the stamens. Fig. 3. Calyx, style and stigma. Fig. 4. Calyx with ripe fruit. Fig. 5. Seeds, or achenia.—*All more or less magnified.*

Lamprolepis coccinea — F. Swan Lith.r Dayl.r Exp.

CAMPULEIA COCCINEA.

Scarlet-flowered Campuleia.

DIDYNAMIA ANGIOSPERMIA.—NAT. ORD. *PEDICULARIS.*

GEN. CHAR.—*Cal.* cylindraceus, subventricosus, 5- (10- *P. Th.*) striatus, 5-aristatus. *Cor.* tubulosa curvata, limbo patente, bilabiato, labio superiore emarginato, inferiore trilobato. *Stigma* capitatum. *Capsula* ovata, bivalvis, bilocularis, polysperma.

Campuleia *coccinea.*

Campuleia, corollâ coccineâ, P. TH. *Gen. Madag.* p. 7.

Root parasitic on the roots of other plants, somewhat tuberous, horizontal, with many short fibres. *Stem* 6–8 inches high, striated, scabrous. *Leaves* remote, alternate, linear, somewhat rigid, rather acute, quite entire, single-nerved, scabrous with short, rigid, appressed bristles or aculei, both on the upper and under side, and at the margin.

Flowers solitary, axillary in the upper leaves. *Calyx* cylindrical, below somewhat inflated, membranous, with 5 elevated ribs, which terminate in as many awn-like teeth: the back of these ribs is scabrous. *Corolla* bright scarlet; *tube* long, curved; *limb* spreading out into 2 unequally-sized lips, of which the upper is simply emarginate, the lower into 3 equal retuse lobes. The *stamens* I have not had an opportunity of seeing. *Pistil: Germen* oblong. *Style* filiform, shorter than the tube of the corolla: *Stigma* capitate. *Capsule* terminated with the style, oval, opening with 2 valves; dissepiments opposite to the valves.

No figure has yet been published of this curious and beautiful plant, which is a parasite upon the roots of various plants in the Isle of France, and, like the *Orobanche* in this country, doing considerable mischief, by destroying the crops.

Even the very genus seems to have been unknown to every author but AUBERT DU PETIT-THOUARS, who accurately defined it in his account of the new Genera of Madagascar Plants, and mentions its affinity with *Bartsia* and *Rhinanthus*, as well as with *Buddleja* and *Piripæa*. He, however, has named no species; but says, that, besides that of Mada-

gascar, " altera species in cultis Insula Franciæ irrepsit ann. 1800, corolla coccinea spectabilis, sed more Orobanchis radicem parasiticæ, inde plantis vicinis noxia, præcipue Maici." This is no doubt the species I have now received by the kindness of Mr TELFAIR, under the name of *Campuleia coccinea*. The specimens were accompanied by a coloured drawing by Mrs TELFAIR, by the united aid of which I have been enabled to make the accompanying representation.

Fig. 1. Back view of a flower. Fig. 2. Front view of a corolla. Fig. 3. Calyx, including the pistil. Fig. 4. Pistil. Fig. 5. Capsule. Fig. 6. Leaf.—*All more or less magnified.*

Aneilema longifolia

ANEILEMA LONGIFOLIA.

Long-leaved Aneilema.

HEXANDRIA MONOGYNIA.—NAT. ORD. *COMMELINEÆ, Br.*

GEN. CHAR.—*Perianthium* 6-partitum, inæquale: foliola 3 *exteriora* calycina, persistentia: *interiora* petaloidea, decidua. *Stamina* 6. *Antheræ* 3 (vel 2–4), dissimiles, vix polliniferæ. *Involucrum* nullum.—Herbæ *diffusæ v. erectæ.* Foliorum *vaginæ integræ.* Inflorescentia *vaga, subpaniculata.* —BR.

Aneilema *longifolia;* glabra, caule erecto, foliis linearibus acuminatis basi ciliatis, paniculæ ramis bracteatis submultifloris, filamentis *fertilibus* barbatis, *abortivis* nudis triglandulosis.

About a foot high. *Leaves* rather crowded at the base, the rest distant, linear-lanceolate, like those of many grasses, acuminate, striated, sheathing and ciliated at the base; the rest of the plant glabrous. *Panicle* terminal, lax, the lower branches remote, leafy, the upper ones more crowded, and, as well as each branchlet, bracteated.

Flowers drooping before expansion. *Calyx* of 3 ovato-greenish leaflets. *Corolla* pale purple of 3 broadly obovate, very obtuse, veined, spreading, rather unequal petals. *Three lowermost stamens* fertile: their *filaments* clothed with purple hairs: *Anthers* oblong. *Three upper ones* abortive: their *filaments* naked, tipped with 3 club-shaped yellow glands. *Pistil: Germen* ovate: *style* filiform, curved: *stigma* acute. *Capsule* ovate, 3-celled, 3-valved. *Dissepiments* in the middle of each valve, with 2 ovate, depressed seeds on each side.

The genus *Aneilema* was established by Mr BROWN, and was intended to include, besides the *Commelina vaginata, spicata,* and *medica,* &c. ten species, which are natives of New Holland. Dr ROXBURGH, too, has described and figured some new species in the collection at the India House. From all these the present individual appears to differ. It is a native of stagnant waters in the Island of Zanzibar, and was discovered there by Messrs HELSINGER and BOJER. From the

seeds of dried specimens communicated to me, plants were raised by Mr Barclay at Bury-hill, and they flowered in his stove in the month of August.

Fig. 1. Front view of a flower. Fig. 2. Fertile stamen. Fig. 3. Abortive ditto. Fig. 4. Pistil. Fig. 5. Capsule with the persistent calyx. Fig. 6. Seed.—*All more or less magnified.*

Tillandsia aloifolia

TILLANDSIA ALOIFOLIA.

Aloe-leaved Tillandsia.

HEXANDRIA MONOGYNIA.—Nat. Ord. *BROMELIACEÆ.*

Gen. Char.—*Calyx* tripartitus, inferus. *Corolla* tripartita. *Capsula* trivalvis. *Semina* papposa.

Tillandsia *aloifolia*; foliis e basi lato lanceolatis concavis longe acuminatis rigidis squamuloso-farinaceis, spiraliter tortis obscure-fasciatis, caule superne aphyllo diviso flexuoso, floribus remotis distichis, corolla (rosea) calyce duplo breviore, staminibus exsertis.

Parasitic. *Roots* fibrous, thickish. *Stems* 1½ to 2 feet high, below imbricated with several spirally twisted leaves; of these the outermost may be called ovate and acute; the rest from a broadly lanceolate, concave base, become gradually attenuated into long pungent points. The very uppermost gradually pass into sheathing bracteæ. All are of a thickish rigid texture, bluish-green, obscurely marked with transverse waved striæ or bands of a deeper colour, and everywhere densely clothed with minute farinaceous scales. The stem terminates in a slightly branched leafless zig-zag panicle, having sheathing bracteæ at the base of every division, and another similar one more than half enveloping each flower, farinaceo-squamose. *Flowers* distant, solitary upon the jointed canaliculated rachis. *Calyx* of 3 lanceolate, concave, tough and membranaceous segments; spirally imbricated into a tube, which firmly envelopes more than the lower half of the corolla. *Corolla* cut to the base into 3 closely placed, linear-lanceolate, erect, rose-coloured segments; recurved at the extremity. *Stamens* 6, longer than the corolla. *Filaments* reddish. *Anthers* fixed by the centre of the back to the filaments; *pollen* yellow. *Pistil* longer than the filaments. *Germen* ovato-lanceolate, 3-lobed. *Style* filiform. *Stigma* trifid, each lobe dilated at the extremity.

Received at the Glasgow Botanic Garden from the Island of Trinidad, whence it was sent by the late Baron De Schack. Having been planted in common soil, rather as a means of support to it, than for the sake of affording nourishment, and

placed on a shelf near the glass, in a warm stove, it blossomed in the months of November and December 1825.

I find no description that will accord with this plant. We have the good fortune to possess from the same island, and also from Mendoza in South America, through the favour of Dr GILLIES, several other novel species, which I hope to be able to figure in this work.

---

* Fig. 1. Bractea removed from the flower. Fig. 2. Flower. Fig. 3. Segment of the corolla, with two stamens. Fig. 4. Pistil. Fig. 5. Portion of a leaf, to shew the farinaceous scales.—*All more or less magnified.*

Caladium pedatum

CALADIUM PEDATUM.

Pedate-leaved Caladium.

MONŒCIA POLYANDRIA.—Nat. Ord. *AROIDEÆ.*

Gen. Char.—Masc. *Cal.* 0. *Cor.* 0. *Antheræ* peltatæ, multiloculares, in spicam ad apicem spadicis compositæ.—Fœm. *Cal.* 0. *Cor.* 0. *Germina* ad basin spadicis inserta. *Stylus* 0. *Bacca* unilocularis, polysperma.

Caladium *pedatum*; caulescens, foliis longe petiolatis cordatis profunde tripartitis, lacinia superiore maxima pinnatifida inferius auriculatis incisis, pedunculis petiolo brevioribus, spatha cucullata involuta.

Stem climbing, cylindrical, succulent, green, about an inch in diameter, jointed, and throwing out thick fibrous *roots* from various parts of its length. *Leaves* alternate, large, deep green, cordate, deeply tripartite; *upper segments* the longest, with about 5 ovato-oblong, rather obtuse laciniæ; the *lower ones* ovate, with one large segment near the base, below and variously cut at the margin. *Petiole* longer than the leaf, sheathing at the base, cylindrical above.

Peduncle shorter than the petiole, cylindrical, green. *Spatha* 5 inches long, broad, cucullate, involute, so as almost wholly to conceal the spadix, rather thick and subcoriaceous, contracted above the middle, green below the contraction, yellowish-white above it. *Spadix* nearly as long as the spatha, cylindrical, thick, scarcely pedunculated. The lower part, for nearly one-half of the length, is covered with small spherical yellowish *germens*, destitute of *style*, and with a trifid and crenulated *stigma*; the middle part with purplish *peltæ (abortive anthers)*, the rest to the very extremity thickly clothed with brownish, peltate, fleshy *Anthers*, on the sides of which are several longitudinal cells.

Communicated by Mr Shepherd from the collection of Mrs Harrison of Aegsburgh, who had received it from Brazil.

It appears to be quite an undescribed species, allied, however, to the West Indian *C. auritum*, in which the ultimate segment is not pinnatifid, but entire.

Fig. 1. Spadix, natural size. Fig. 2. Stamens. Fig. 3. Abortive stamens. Fig. 4. Pistil,—*magnified.*

Epidendrum Miltonii

A. T. Gronville delt. *J. Sowerby Soulp.*

EPIDENDRUM ELLIPTICUM.

Elliptical-leaved Epidendrum.

GYNANDRIA MONANDRIA.—NAT. ORD. *ORCHIDEÆ.*

DIV. Anthera *terminalis, mobilis, decidua.* Massæ pollinis *demum cereaceæ.*

GEN. CHAR.—*Columna* cum ungue labelli longitudinaliter connata in tubum (quandoque decurrentem ovarium). *Massæ pollinis* 4, parallelæ, septis completis persistentibus distinctæ, basi filo granulato elastico auctæ.—BR.

Epidendrum *ellipticum;* foliis alternis subellipticis succulentis, pedunculis terminalibus elongatis, labello perianthio æquali tripartito fimbriato, lobo intermedio minore lineari.—GRAHAM, MSS.

Epidendrum ellipticum, GRAHAM, MSS.

" *Roots* long, round, fleshy, many pushed downwards from the origin of the branches. *Stem* jointed, branched; *branches* simple, round, slightly flexuose, green, spotted with dull brown. *Leaves* alternate, distichous, spreading, varying in different branches from ovato-elliptical and slightly concave above, to elliptico-linear, and nearly flat; occasionally slightly notched at the apex, fleshy, very obscurely marked with numerous minute parallel veins, green, sometimes faintly spotted like the stem, arising from the joints by very thin sheaths, which enclose the stem, and are in some branches as long as the joints, in others much shorter: —for about a foot at the upper part of the stem, and generally for a little way at the bottom, there are sheaths only, which are there pointed, persisting, whitish, and withered, brown and striated in their upper part.

" *Inflorescence* a crowded, short, terminal spike; *rachis* toothed. *Flowers* spreading, continuing many days expanded, each having a small, pointed, marcescent *bractea*. *Perianth* rose-colour, obscurely veined, 3 outer segments rather the longest, obovato-lanceolate, entire, pointed; 2 inner lanceolate, slightly serrated towards the apex. *Labellum* erect, 5-toothed in front (two teeth being in a line on each side, and one between the upper pair, which are the largest), 3-cleft, segments spreading, fimbriated, two lateral ones by much the largest, semicircular, the central segment linear, and nearly entire on its sides, all deep rose-colour when expanding, but afterwards, especially the lateral segments, which have a few small dots of a deep rose colour, becoming very pale. *Anther-case*

conical, pale yellowish-green, occasionally reddish at its base. *Pollen-masses* four, yellow, attached by a filament exceeding them in length. *Germen* an inch long, furrowed, enlarging upwards, pink.

" The mode of growth of this plant is curious, and analogous to that of other genera among the *Orchideæ*. A bud forms immediately above a joint, from this one or more flowering-branches are sent forth, and from the origin of these many roots arise: branches with roots in like manner proceed from these, and others from these again, each after flowering appearing gradually to decay. Perhaps the plant, therefore, would be more correctly described as having a simple stem, the only really living portion being what for convenience is here called a branch."—GRAHAM, MSS.

This plant was received from Rio through Captain GRAHAM, in 1824, and flowered in the stove of the Edinburgh Botanic Garden in March 1826. From *Ep. elongatum* it differs in the shape and texture of the leaves, and especially in the lip of the flower, which has the middle lobe linear, and much smaller than the lateral ones, whereas in *E. elongatum* it is of the same size and shape as these.

Fig. 1. Flower seen in front. Fig. 2. Anther-case. Fig. 3. Pollen-masses, *magnified*. *a*, *b*, *c*, *d*, Are stems or branches of different ages; *a*, the oldest was connected with *b*, close to the surface of the earth, and *c*, *d*, had their origin at the same time from the point *e*, from which they were only detached by accident; *a*, is now quite dead, and *e* has little life. *d*, Has ovato-elliptical concave leaves, while on *c*, they are ellip-tico-linear, and nearly flat. Both of these stems flowered; but *d*, the one represented in the figure, much more freely. At *f*, a small swelling has taken place, evidently the point from which *d* will produce its suc-cessor. There is no bulb similar to *g*, on *c*.

1

2

3

Asplenium flabelliforme

ASPLENIUM FLABELLIFOLIUM.

Fan-shape leaved Asplenium.

CRYPTOGAMIA FILICES.—Nat. Ord. *FILICES.*

Gen. Char.—*Sori* lineares, sparsi, dorsales. *Involucrum* e vena lateraliter ortum ducens, margine superiore libero.—Br.

Asplenium *flabellifolium* ; frondibus pinnatis, pinnulis orbiculato-rhombeis antice crenato-dentatis, rachi lævi apice filiformi nuda radicante.—Br.

Asplenium flabelliforme, Cav.—Swartz, *Syn. Fil.* p. 81. t. 3. f. 2.—Willd. *Sp. Pl.* v. 5. p. 333.—Brown, *Prodr. Fl. Nov. Holl.* p. 150.

Stipes from 3 to 6 inches long, slender, shining, brownish-green, with a few scales at the base. *Frond* a foot and more in length, simply pinnated. *Rachis* waved, very slender, filiform, glabrous, naked at the extremity, and there throwing out roots and new plants, the rest simply pinnated with distant pinnæ. *Pinnæ* alternate, many of them quite flabelliform in form, others rhomboid, approaching to roundish, the base obliquely cuneate, the extremity broad, obscurely tri-lobed, sharply crenato-dentate, the texture delicate, marked with somewhat radiating, forked nerves, upon which the fructifications are situated.

Sori linear, dark brown, often so closely placed as in age to become confluent.

This pretty and very delicate Fern is a native of New Holland, and was first described by Cavanilles. It was found by Mr Brown about Port Jackson, in Van Diemen's Island, and on the southern shores of New Holland. From near Port Jackson living specimens were sent to our Botanic Garden, along with many other rare Ferns, and still more rare orchideous plants, by Mr Fraser, in the year 1825. Hitherto we have kept the plant in a warm stove, where it soon grew well, and bore fructification.

With no described Fern does this species seem to have any striking affinity; but from my friend Dr GILLIES of Mendoza, S. America, I possess specimens of an *Asplenium*, which in many respects accord well with this, and which were found upon rocks at the famous Uspalata mines. The form of the pinnæ and the fructification are exactly similar; but in the South American individual, the pinnæ are much smaller, of a more delicate texture, the rachis is leafy to the extremity, which is never rooting or proliferous. The whole plant, too, is not more than 4 or 5 inches high *.

Fig. 1. A pinna, seen from the outside. Fig. 2. Three capsules,—*magnified.*

---

* Dr GILLIES's plant may be thus defined:

Asplenium Gilliesii; frondibus pinnatis, pinnis flabelliformibus antice crenato-dentatis, rachi lævi apice non radicante.

Eucrosia bicolor

EUCROSIA BICOLOR.

Two-coloured Eucrosia.

HEXANDRIA MONOGYNIA (rectius MONADELPHIA).—NAT. ORD. *AMARYLLIDEÆ.*

GEN. CHAR.—*Cor.* supera, sexpartita, tubo declinato, fauce obliqua. *Stamina* valde exserta monadelpha mox declinata. *Caps.* trilocularis.

Eucrosia *bicolor.*

Eucrosia bicolor, *Bot. Reg.* t. 207.—HERB. *in Bot. Mag.* t. 2490.

" *Bulb* globose, brown. *Leaf* petioled, elliptico-lanceolate, slightly undulate, about 1 foot long, 4 inches broad; midrib large, succulent, channelled in front, and of a paler green than the leaf; *petiole* about 5 inches long, pale glaucous green, succulent, compressed.

" *Scape* nearly two feet long, round, tapering upwards, glaucous. *Spatha* multivalvular, longer than the pedicels (shorter in the drawing), marcescent. *Umbel* many-flowered; pedicels spreading, nearly straight, about one inch long. *Corolla: limb* of a nearly uniform deep red colour, with a few green stains; 3 inner segments obovato-lanceolate, 3 outer narrower, lanceolate, all compressed laterally and rigid, one inch long, tube rather more than $\frac{1}{4}$ of an inch in length. *Germen* trigonous, shorter than the tube of the corolla, and like it and the pedicel and the whole bud, of a deep uniform glaucous green. *Filaments* awl-shaped, unequal, in pairs, the longest nearly 5 inches long, hanging out from the bottom of the flower, at first straight, afterwards gracefully curved upwards for about one-third of their length from the extremity, connected with each other for a very little way at the bases only: there is a large gland on the inside of the base of each, yielding much sweet fluid. *Anthers* linear, cleft at one end, attached loosely to the filaments at a little distance from their centres, and, with these, of a bright green. *Style* furrowed, twisted, especially before it is fully evolved, equal in length to the longest filament, and of the same shape and colour; at first straight, then curved downwards, and, lastly, bent up like the filaments. *Stigma* small, somewhat pubescent, and nearly white."—GRAHAM.

From the stove of the Edinburgh Botanic Garden, whence we derived our drawing made by Dr GREVILLE, and our description by Dr GRAHAM. It blossomed in March 1826. The bulb was added to the collection by Mr NEILL, who had it from Mr JAMESON, resident in Chili. It produced a luxuriant plant with six flowers, and a large green leaf at the same time with the scape. "The difference of colour," Dr GRAHAM observes, "but more particularly the circumstance of the filaments being connected for a very little way only, together with the shape of the leaf, may excite a suspicion that this and the *E. bicolor*, Bot. Mag. are distinct; but I believe they are the same."

The bulb and flowering scape are represented of the natural size; the leaf is diminished one-third.

Pothos coriacea

POTHOS CORIACEA.

Coriaceous Pothos.

TETRANDRIA MONOGYNIA.—NAT. ORD. *AROIDEÆ.*

GEN. CHAR.—*Spatha* monophylla. *Spadix* cylindraceus, undique floribus tectus. *Perianthium* tetraphyllum. *Bacca* tetrasperma.

Pothos *coriacea*; acaulis, foliis oblongo-lanceolatis undulatis coriaceis basi obliquis venosis, nervo marginali, petiolo apice nodoso, pedunculo foliis dimidio breviore.

Pothos coriacea, GRAHAM, *in Edinb. Phil. Journ.* April 1826.

" *Roots* strong, fleshy, round and branched. *Stem* none. *Leaves* petioled, lanceolate, undulate, coriaceous, dull green, about 2½ feet long, suberect, set obliquely on the petiole, veined, having an obscure lateral rib or nerve near the edge of the leaf; middle rib very strong, prominent and round both behind and before. *Petioles* rising from the centre of the crown of the root, where they are very turgid, 6–8 inches long, semicylindrical, about as thick as the fore finger, with a swollen joint at the base of the leaf; and here the cuticle generally becomes wrinkled transversely, cracked, and brown. *Stipules* broad at the base, clasping the bases of several petioles, pointed, green, persistent, and becoming torn, withered, and white.

" *Peduncle* erect, much shorter than the leaves. *Spatha* suberect, ovato-lanceolate, acuminate, pale green, rather shorter than the spadix. *Spadix* round, tapering, about 5 inches long, greenish-white, shortly after its evolution covered with globules of a transparent, colourless fluid, giving it in most lights a very beautiful silvery appearance. *Anthers* yellow; *filaments* white. *Germen* white, spotted with rose-colour.

" This species I have seen at Kew; but I am not aware that it has any where been described. The specific name here given refers to the firm, dry, thick foliage."—GRAHAM.

The above description, together with the accompanying figure, drawn by Dr GREVILLE, were communicated to me by Dr GRAHAM. The plant was brought by Captain GRAHAM

of H. M. Packet-Service from Rio Janeiro in 1824. It flowered in the stove of the Edinburgh Royal Botanic Garden in June 1825.

Fig. 1. Much reduced plant of *Pothos coriacea*. Fig. 2. Spatha and spadix, *natural size*. Fig. 3. Portion of the spadix, to shew the flowers more distinctly, *magnified*. Fig. 4. Stamens; and, Fig. 5. Pistil, likewise *magnified*.

Pothos Harrisii

Ellis & Greville del.t

J. Sowerby sculp.t

POTHOS Harrisii.

Mr Harris's Pothos.

TETRANDRIA MONOGYNIA.—Nat. Ord. *AROIDEÆ.*

Gen. Char.—*Spatha* monophylla. *Spadix* cylindraceus, undique floribus tectus. *Perianthium* tetraphyllum. *Bacca* tetrasperma.

Pothos *Harrisii*; caulescens, foliis lanceolato-acuminatis venosis, nervo laterali, petiolo apice nodoso, pedunculo foliis æquali.

Pothos Harrisii, Graham, *in Edin. Phil. Journ.* April 1826.

"Caulescent. *Roots* creeping, and, as they descend perpendicularly from many parts of the stem, cylindrical, fleshy, red, slightly scarred. *Stems* flexuose, jointed, green.

"*Leaves* petioled, scattered, about 18 inches long, cordato-lanceolate, acute (scarcely so in the drawing), bright green, shining, veined, somewhat folded in the middle, flat when beginning to decay; middle rib very strong, projecting both behind and before, in its upper half sharp before, round in its whole length behind; veins united at their extremities towards each edge of the leaf, by a waved nerve, scarcely stronger than the veins. *Petiole* about 3 inches long, sometimes much longer, swollen at its insertion into the stem, and jointed close to the leaf, green, furrowed above, slightly winged, wing waved; *stipules* long, pointed, reddish-yellow, persisting, and with their remains forming a brown ragged sheath to the upper part of the stem.

"*Peduncle* axillary, equal in length to the leaf and petiole, slender, erect. *Spadix* slightly tapering, about 5 inches long, greenish-brown. *Spatha* nearly as long as the spadix, narrow, pointed, reflected, pale green, reddish at the tip; *anthers* yellow; *filaments* white; *pistil* pale green, spotted with red."

Brought, along with *P. coriacea* (figured in the last plate) by Captain Graham, together with several other new and rare plants, to the Edinburgh Botanic Garden in 1824. They were given to that gentleman by M. Joaquim Harris of Rio, in testimony of whose exertions in behalf of practical botany,

Professor GRAHAM of Edinburgh has named the present species. It is kept in the stove, and grows freely.

The above description is entirely from Dr GRAHAM; the drawing from the pencil of Dr GREVILLE.

Fig. 1. Plant of *Pothos Harrisii*, much reduced. Fig. 2. Spatha and spadix, *natural size*. Fig. 3. Portion of the spadix, to shew the flowers. Fig. 4. Front view. Fig. 5. Back view of a stamen; and, together with Fig. 6. the Pistil, *magnified*

Justicia calyptrocha — J. Swan Sculp.

JUSTICIA CALYTRICHA.

Yellow-flowered Justicia.

DIANDRIA MONOGYNIA.—NAT. ORD. *ACANTHACEÆ*.

GEN. CHAR.—*Cal.* 5-partitus, raro 4-partitus. *Cor.* valde irregularis, bilabiata, v. ringens, labio inferiore diviso. *Stam.* 2, antherifera. *Anth.* biloculares, loculis insertione sæpe inæqualibus. *Filamenta* sterilia, nulla v. obsoleta. *Ovarii* loculi dispermi. *Dissepimentum* adnatum. *Semina* retinaculis subtensa.—BR.

Justicia *calytricha*; panicula terminali compacta, corollis breviter bilabiatis, labio inferiore recurvato trifido, calyce 5-partito segmentis longissimis setaceis, foliis cordato-ovatis undulatis.

Justicia calytricha, OTTO, *in litt.*

Stem 2 to 4 feet high, branched, branches rounded, glabrous, swelling at the joints. *Leaves* opposite, glabrous, large, 3–5 inches long, flaccid, waved, cordato-ovate, upon rather long and stout petioles, which are plane or slightly grooved above, jointed as it were upon the stem.

Panicle small, compact, its branches opposite, with a pair of small leaves at the base. *Calyx* deeply 5-partite: the segments setaceous, glabrous, twisted, as long as the tube of the corolla. *Corolla* glabrous, yellow, above an inch long. *Tube* thickened upwards, terminating in two rather short lips, of which the upper one is straight, acuminato-entire, the lower one broader, recurved, trifid, or almost tripartite. *Stamens* 2. *Filaments* as long as the tube of the corolla, inserted near its base, slightly pubescent at its very base. *Anthers* ovato-oblong, the cells equal, parallel. *Pistil: Germen* inserted upon a large circular gland, oblong, marked on each side with a longitudinal furrow, tapering upwards into the long, filiform style. *Stigma* small, bifid.

This curious plant flowered in the month of January of the present year (1826) in the stove of the Botanic Garden of Liverpool, having been received under the name here adopted from Mr OTTO of Berlin, a few months before. Nothing, how-

ever, has been communicated of its history, or of its native country.

It is remarkable in the pale yellow colour of its flowers, and still more so in the long, almost hair-like segments of the calyx, which give a very peculiar aspect to the panicle of flowers.

Fig. 1. Single flower. Fig. 2. Front view of stamen. Fig. 3. Back view of ditto. Fig. 4. Top of the style and stigma. Fig. 5. Lower part of the corolla laid open, to shew the insertion of the filaments of the stamens and the pistil.—*All more or less magnified.*

Catasetum semiaperturn

J. Swan Sculp.t Glasgow

CATASETUM SEMIAPERTUM.

Greenish-flowered Catasetum.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Cor.* petalis subæqualibus; labello saccato-concavo. *Columna* bicornis; *cornua* retrorsa, filiformia arcuato-conniventia. *Anthera* operculata, columnæ interne infra apicem insidens. *Pollinia* duo, postice biloba v. sulcata; caudicula maxima, demum elastice dissiliente, glandula cartilaginea, glutinosa, subquadrata.

Catasetum *semiapertum;* spica compacta foliis breviore, petalis patentibus subsecundis lato-ovatis concavis, labello ore contracto integro, lateribus minute denticulatis.

The nature of the *bulbs* and *leaves* of this plant is so similar to those of *Catasetum tridentatum*, figured in this work, that it is needless to repeat their description.

The *scape* springs from the base of the bulb, and, including the flowers, is much shorter than the leaves. These flowers are collected into a dense ovato-globose spike; each of them smaller than in *C. tridentatum, floribundum* and *Claveringii*, and larger than in *C. Hookeri* of Lindley. The *petals* are of a pale greenish-yellow, concave, directed to one side, pointing downwards, so as to leave the lip, which constitutes the upper part of the flower, quite exposed. The *lip* is a pale and delicate green, within greenish-purple, very thick and fleshy, forming a deep hollow, ovate and very obtuse pouch; the mouth much contracted, the front part quite entire and yellow, the sides furnished with minute, teeth-like ciliæ. *Column* and *Anther* exactly the same as in *C. tridentatum* and *floribundum;* but the *pollen-masses* are much more oblong, and of a deeper orange colour.

Different as I am satisfied is this species from all those hitherto described and figured, yet it is scarcely possible to define these differences in words. The petals come nearest in shape to those of *C. Claveringii* and *C. floribundum*, being much broader than in *C. tridentatum.* The *lip* is distinguished

from all in the remarkably contracted mouth, entire at the slightly dentato-ciliate at the margin.

Living plants of this *Catasetum* were sent by BELL EDWARD LLOYD, Esq. from Brazil to Miss P. S. FALKNER of Fairfield, who presented them to the Liverpool Botanic Garden. They flowered in the stove in May 1826.

Fig. 1. Front view of the Lip. Fig. 2. Side view of ditto. Fig. 3. Vertical section of ditto. Fig. 4. Germen and column of fructification. Fig. 5. Inner view of the anther-case, enclosing the pollen-mass. Fig. 6. Back view of the pollen-mass.—*All more or less magnified.*

Conanthera campanulata

CONANTHERA? CAMPANULATA.

Bell-flowered Conanthera.

HEXANDRIA MONOGYNIA.—NAT. ORD. *ASPHODELEÆ.*

GEN. CHAR.—*Perianthium* superum, hexaphyllum, reflexum, foliolis alternis inæqualibus. *Antheræ* in conum coalitæ. *Filamenta* subglandulosa. *Capsula* trilocularis polysperma.

Conanthera? *campanulata*; foliis (ternis) lineari-lanceolatis, longe attenuatis canaliculatis, perianthio monophyllo campanulato sex-fido, segmentis æqualibus.

Conanthera bifolia, *Bot. Mag.* t. 2496. (not of *Fl. Peruv.* nor of *Lodd.*).

The *root*, which is probably bulbous, I have not seen. *Leaves*, only 3 in the present specimen, 8–10 inches in length, linear-lanceolate, grooved above, attenuated at the base, and remarkably so at the extremity. *Scape* a foot high, rounded, glabrous, with distantly placed, lanceolate, sheathing *bracteæ*, simple, with an undivided raceme at the extremity. *Pedicels* rather long, bracteated at the base, bracteæ small, subulato-membranaceous. *Perianth* half superior, drooping, about the size of, and very much resembling in shape, the flower of *Campanula rotundifolia*, of a deep purple-blue, bell-shaped, 6-cleft, the segments oval, obtuse, patent, at length reflexed, ciliated at the margin. *Anthers* inserted at the very base of the perianth. *Filaments* exceedingly short, white, glabrous, united into a ring by their broad bases, so that the stamens are in reality monadelphous. *Anthers* lanceolate, yellowish-green, bifid at the point. *Cells* 2, opening near the sides, longitudinally, surrounding the style, and meeting, so as to form a cone. *Pistil: germen* ovato-globose, green, half inferior, obtusely trigonal above, and tapering upwards into a straight, subulate white style; *stigma* acute, 3-celled: *cells* with many ovules.

The roots of this plant were sent to our Botanic Garden by Mr CRUICKSHANKS from Chili, and they flowered in the greenhouse in the month of May 1826.

The habit of this plant, and the structure of the stamens and germen, are so similar to those of *Conanthera bifolia* of

the Flora Peruviana, that I can hardly persuade myself but that it must belong to the same genus, although the perianth is monophyllous, and the segments, except in decay, are not bent back. It comes much nearer to the plant of the same name figured in the Bot. Mag. t. 2496., where likewise the perianth appears to be of one piece; but these segments are vastly longer, and appear to be unequal.

Mr LODDIGE's plant, again, appears to be exactly the same as FEUILLEE's, (v. iii. t. 3. p. 8.) and that of RUIZ and PAVON, the blossoms of which are aptly compared in the Botanic Cabinet to those of a *Solanum*.

Fig. 1. Flower. Fig. 2. Section of the perianth, laying open the parts of the flower. Fig. 3. Pistil and stamens, the greater part of the perianth being removed. Fig. 4. Anther. Fig. 5. Pistil. Fig. 6. Transverse section of the germen.—*All more or less magnified.*

1

2

3

4

5

Pyrethrum diversifolium

PYRETHRUM DIVERSIFOLIUM.

Hairy New Holland Pyrethrum.

SYNGENESIA POLYGAMIA SUPERFLUA.—Nat. Ord. *COMPOSITÆ.*

Gen. Char.—*Receptaculum* nudum. *Achenia* margine membranacea coronata (rarissime breviter papposa). *Involucrum* hemisphæricum, foliolis acutiusculis imbricatis, margine membranaceis.—Sm.

Pyrethrum *diversifolium ;* caule subramoso pilis articulatis hirsuto, foliis pinnatifidis incisis petiolo dilatato, superioribus subintegris, acheniis margine brevi papposo.

Pyrethrum diversifolium, Graham, MSS.

Root annual. *Stem* about a foot high, clothed, except at the extremity, with scattered, white, beautifully jointed hairs, rarely tipped with a small gland; scarcely branched. *Leaves* 2–3 inches long, pinnatifid, the segments lanceolate, entire or incised, glabrous, the petioles about as long as the leaf, in the lower leaves scarcely dilated, the rest remarkably so, upper ones nearly entire, all of them hairy, especially at the margin, with the hairs jointed.

Flowers terminal, solitary. *Calyx* shortly hemispherical, imbricated with greenish, oblong, scarcely concave scales, white, membranous at the margin, fringed at the extremity with minute glandular hairs. *Disk* yellow. *Ray* white. *Receptacle* naked, at length, very convex, dotted. *Germens* and young *Achenia* obovato-oblong, oblique, crowned with a short, simple, marginal *pappus* of hairs.

This has altogether the habit of a *Chrysanthemum* or *Pyrethrum*, approaching nearer to the character of the latter in having a crown to the *achenia* or seeds; but then this crown is a short hairy *pappus*, which may perhaps be considered of sufficient importance to cause it to be removed, although such a removal would undoubtedly be contrary to nature.

The broad and dilated petiole, and the very distinctly joint-

ed hairs, are striking characters in this species, which is cultivated in the greenhouse both of the Botanic Gardens of Edinburgh and Glasgow, flowering in 1825 and 1826 in the month of May. The seeds were sent by Mr FRASER from New Holland, who also sent me native dried specimens, which are not above half the size, either in the stems, leaves or flowers, of the individual here figured.

Fig. 1. Ligulate floret. Fig. 2. Floret of the disk. Fig. 3, 3. Achenia, but not quite ripe. Fig. 4. Scale from the involucre. Fig. 5. Hairs from the stem.

Grevillea fulcherrima

GREVILLEA PUBESCENS.

Downy-leaved Grevillea.

TETRANDRIA MONOGYNIA.—Nat. Ord. *PROTEACEÆ.*

Gen. Char.—*Cal.* (Perianthium) irregularis foliolis laciniisve secundis, apicibus cavis staminiferis. *Antheræ* immensæ. *Glandula* unica hypogyna, dimidiata. *Ovarium* dispermum. *Stigma* obliquum depressum (raro subverticale, conicum). *Folliculus* unilocularis, dispermus, loculo centrali. *Semina* marginata v. apice brevissime alata.—Br.

Grevillea *pubescens*; foliis oblongis obtusis pubescentibus mucronulatis, racemis corymbosis, perianthio pedicellisque glabris, stylo hirsuto.

Apparently a small branching *shrub*, with hirsuto-pubescent stems and branches. *Leaves* scattered, spreading, an inch to an inch and a half long, somewhat waved, quite entire, pubescent on both sides, pubescence often branched, paler, but not silky beneath, the extremity obtuse, and tipped with a short mucro.

Flowers at the extremity of the branches, in corymbose racemes. *Pedicels* slender, quite glabrous, with a small lanceolate bractea at the base. *Perianth* pale yellowish, green, broad and gibbous below at the base, remarkably curved at the extremity, open at the back nearly the whole length, quadrifid at the extremity, the lobes hollow, each bearing a yellowish, 2-celled, sessile *anther*. The texture is rather thick and fleshy, turning brown when dry, the base filled with a sweet honey-like fluid, and near the base is a tuft of white silky hairs. *Pistil* with a large gland on one side, at the base. *Style* hairy, purplish, exserted beyond the cleft at the back of the perianth, green at the extremity, and glabrous. *Stigma* oblique, scutelliform, oval, depressed, green.

I do not find among Mr Brown's species of *Grevillea* published in his invaluable dissertation on the *Proteaceæ*, in the 10th volume of the Transactions of the Linnæan Society, any one that well accords with this; nor am I sure that even this will be found to be constant to its characters, especially in what regards pubescence; for I have specimens gathered upon the

Blue Mountains in New Holland, which differ only in having more stiff and rigid leaves, and are scarcely at all pubescent. This latter appears to come near to *G. Baueri* of Mr Brown.

The seeds of this plant were communicated by Mr Fraser to our Botanic Garden, where they blossomed in 1825, and to that of Edinburgh, where they flowered in 1826; and it was from these latter that our drawing was taken by Dr Greville.

Fig. 1. Flower, with pedicels of other flowers. Fig. 2. One-half of the Perianth seen from within. Fig. 3. Anther. Fig. 4. Pistil.—*All more or less magnified.*

Maxillaria parvula

MAXILLARIA PARVULA.

Small Maxillaria.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ*

Gen. Char.—*Perianthium* patens, resupinatum. *Labellum* cum processu unguiformi columnæ articulatum, trilobum. *Sepala* lateralia exteriora basibus cum processu columnæ connata. *Pollinia* 2, basibus connata, bipartita.—Lindl.

Maxillaria *parvula*; foliis binis linearibus obtusis, flore solitario, perianthii foliolis lineari-lanceolatis, labello obtuso trilobo venoso intus glandula longitudinali oblonga pilosa.

Parasitic. The former year's bulb (represented at *a* and *b*), which has lost its leaves, is oblong, curved, obscurely marked with elevated lines: from its base springs a new bulb, or indeed a new plant, throwing up a solitary flower, however, before the leaves and bulb are perfected, and enveloped in several oblong sheathing scales. The young leaves are two in number, linear, obtuse.

Peduncle of the flower, scarcely, together with the lengthened germen, rising so high as the top of the old bulb. The thin outer segments of the *perianth* are united at the base, the two lower ones even for half their length, and also with the lengthened base of the column: deep tawny yellow. Two inner ones nearly erect, linear-lanceolate, taller than the column. *Lip* very large, 3-lobed, the sides turned up, purplish-tawny, marked with deep purple lines: in the centre is an elevated longitudinal gland or ridge, which is pubescent. *Column* yellowish. *Anther* terminal, operculiform. *Pollen-masses* 2, deeply cleft into 2 unequal roundish lobes, united at their base.

The genus *Maxillaria* has been lately established by Mr Lindley, and was intended to include the *Dendrobium palmifolium*, *D. Barringtoniæ*, and *D. Harrisoniæ*. To these I have now the pleasure of adding a fourth species, communicated by Mr H. Shepherd from the collection of Mrs Harrison of Aegsburgh. It was discovered by Mr Harrison

of Brazil, growing parasitically upon the trunks of trees on the Organ Mountains, about sixty miles from Rio, and by that gentleman introduced into the stoves of Britain.

The fully formed leaves I have not yet seen; but from the appearance of the young leaves, their form is likely to be linear.

Fig. 1. Flower, from which the Lip (Fig. 2.) is removed, *natural size*.
Fig. 3. Anther-case, enclosing the pollen-masses. Fig. 4. Pollen-masses, *magnified*.

. Tillandsia nitida

TILLANDSIA NITIDA.

Shining broad-leaved Tillandsia.

HEXANDRIA MONOGYNIA.—NAT. ORD. *BROMELIACEÆ.*

GEN. CHAR.—*Cal.* trifidus, persistens. *Cor.* trifida (v. tripartita), campanulata. *Capsula* trilocularis, polysperma.

Tillandsia *nitida*; foliis lingulatis nitidis integerrimis inferne in tubum basi ventricosum involutis, scapo paniculato, floribus remote spicatis undique insertis, calyce ovato bractea longiore (corolla alba).

The *root* of this I have not seen. Whole *plant* glabrous. The *leaves* are few, in the present individual only four in number; the outer one short, the longest 8 or 10 inches in length; all of them lingulate for the greater part of their length, convolute, forming below a hollow tube, which is swollen or ventricose at the very base: the texture of these leaves is thickly membranaceous, of a very dark green colour, shining, minutely striated when held up between the eye and the light, when the margin is seen to have a narrow pellucid border; the extremities are obtuse, with a short acumen, and more or less recurved.

From the hollow centre of the leaves, arises and reaches to about twice their length, a cylindrical *scape*, distantly furnished with sheathing bracteæ, and paniculated at the extremity, the dichotomes bracteated. *Flowers* remotely placed, in rather long, slender spikes, their *bracteæ* ovate, appressed, green, much shorter than them. *Calyx* 3-partite, or they appear to constitute 3 distinct leaflets, rigid, green, closely convolute into an ovate form. *Corolla* deeply 3-partite, or, as it appears to me, of 3 white, ovato-oblong petals, patent at their extremities. *Stamens* 6, included, 3 larger ones alternate with the petals, and inserted upon the receptacle: the 3 others much smaller, inserted below the middle of the corolla. *Filaments* pure white. *Anthers* subrotund, deep orange. *Pistil: germen* oblong, 3-celled; *styles* 3; *stigmas* obtuse.

From the stove of the Liverpool Botanic Garden, to which valuable collection it was sent by Mr WILES from the mountains of Jamaica. It is there said to be a plant of considerable rarity.

The leaves are remarkable for their dark glossy green hue, and there are peculiarities in the insertion of the stamens, and the nature of the styles, which I have not observed in any other species of the genus. The character attributed to the corolla of *Tillandsia* (3-fida, campanulata), should surely be altered; for in many the corolla is deeply 3-partite, and in the present species the petals appear to be distinct.

Fig. 1. Single flower. Fig. 2. Corolla cut open to shew the stamens. Fig. 3. Pistil.—*All more or less magnified.*

1

2

3

4

5

6

Maxillaria armatissa

F. R. Greville ad.t

J. Swan s. sculp.t Edinp.

MAXILLARIA AROMATICA.

Maxillaria.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Perianthium* patens, resupinatum. *Labellum* cum processu unguiformi columnæ articulatum, trilobum. *Foliola* lateralia exteriora basibus cum processu columnæ connata. *Pollinia* 4, basibus connata, glandulosa (vel 2, pedicellata, pedicello basi glanduloso).—Herbæ *parasiticæ*, bulbosæ, *Americæ meridionalis*. Flora *coriacea*, *plicata*. Racemi (*vel* scapi uniflori) *radicales*.—Lindl.

Maxillaria *aromatica;* bulbo late ovato compresso, foliis (6–8) ovato-lanceolatis, plicato-striatis, scapis unifloris, labello semicylindraceo, trilobo, lobis lateralibus lanceolatis subserratis, intermedio duplici, superiore brevi truncato inferiore spathulato apice recurvato serrulato.

Maxillaria aromatica, Graham, MSS.

Root consisting of a few simple fleshy fibres. *Bulb* broadly ovate at first, after the decay of the leaves much enlarged, partially clothed with the sheathing bases of the leaves, smooth. *Leaves* small at the base, much larger upwards, ovato-lanceolate, plicato-striated, the bases embracing and sheathing each other, shining, bright green.

Scapes 2 or more from the base of the bulb, shorter than the leaves, terete, green, with 3 or 4 brown sheathing bracteæ, 1-flowered. *Flower* large, very handsome and fragrant. *Outer segments* or *leaflets* spreading, ovato-lanceolate, yellow, inclining, slightly pubescent within, near the base: the outer and upper one somewhat the narrowest; the lower ones produced and blunt, but not connected at the base. Two inner ones united at their inner margin by the column, deep yellow, lanceolate. *Lip* semi-cylindrical, deep yellow, sparingly dotted with orange within, and having two lines of hairs; at the extremities 3-lobed, the two lateral lobes standing forward, narrow lanceolate, obscurely serrated, the middle double, the upper being short and truncated, the lower continued from the under side of the upper one, spathulate, standing forward, a little recurved, and serrated at the extremity. *Column* large, much elongated, wholly united to the two inner segments of the perianth, deep yellow, orange at the base. *Lid* operculiform. *Pollen-masses* evidently two, distinct at the back, 2-lobed, upon the top of a white flat pedicel, which has a rhomboidal gland at the base.

Sent by the kindness of Dr GRAHAM, together with a beautiful drawing by Dr GREVILLE, and many notes taken from the growing plant. The bulbs were procured at Mexico by Lord NAPIER, and by him obligingly communicated to the Botanic Garden of Edinburgh, where they blossomed, being kept in the stove, in the month of May 1826.

The flowers having the fragrance of Cinnamon, suggested to Dr GRAHAM the specific name of the plant, which I have here adopted.

There can be no doubt about the genus of this. It cannot be separated from *Maxillaria*; yet the pollen-masses differ remarkably from those of the hitherto published species of the genus, as characterised by Mr LINDLEY.

Fig. 1. Front view of a flower. Fig. 2. Lip. Fig. 3. Section of the lip. Fig. 4. Column. Figs. 5, 6. Pollen-masses.—*All more or less magnified.*

Dryas integrifolia

DRYAS INTEGRIFOLIA.

Entire-leaved Dryas.

ICOSANDRIA POLYGYNIA.—Nat. Ord. *ROSACEÆ.*

Gen. Char.—*Cal.* 8–9-partitus, extus nudus, tubo sub concavo. *Pet.* 8–9. *Stam.* numerosa. *Carpella* numerosa, stylo terminali, demum in caudam barbato-plumosam desinente. *Semen* ascendens.

Herbæ *humillimæ, foliis indivisis, subtus albo-tomentosis, floribus albis.*—DC.

Dryas *integrifolia;* foliis ovato-oblongis basi cordatis integerrimis vel inferne pauci-dentatis, marginibus revolutis, subtus vix venosis.

Dryas integrifolia, Vahl, *in Act. Soc. Hafn.* v. iv. P. 2. p. 171.—*Fl. Dan.* t. 1216.—Brown, *in Parry's 1st Voyage, App.* p. cclxxviii.—Hook. *in Parry's 2d Voyage, App.* p. 15.—Richardson, *in Franklin's Journ.*

Dryas tenella, Banks's MSS. *in Herb. Pursh Fl. of N. Am.* v. i. p. 350.

Root long, woody, descending, dividing at the top into two or more short branches, which are recumbent, clothed below with the vestiges of old *leaves* and at the extremity with more thickly crowded ones: these *leaves* are from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in length, between ovate and oblong, of a dark, shining green above, deeply veined, the margin revolute, entire, below the middle furnished with one or two teeth on each side, the base cordate; the under side pure white, with a short, thick down; the veins scarcely visible: *petiole* about as long as the leaf, with a long stipule on each side, which is adnate, for one-half or three-fourths of its length.

Peduncle from the extremity of the short branches, erect, 2 or 3 inches tall, woolly, naked, or with one or two subulate, simple, or laciniated bracteæ. *Calyx* somewhat cup-shaped at the base, woolly, intermingled with deep purple glands, which turn black in drying, cut at the extremity into 8 or 9 spreading, linear, obtuse segments. *Petals* corresponding in number with the segments, oblong, obtuse, white. *Stamens* numerous, inserted at the base of the segments of the calyx, yellow. *Filaments* short. *Anthers* 2-lobed, roundish. *Pistils* numerous, inserted at the bottom of the cup-shaped calyx. *Germen* oblong, nearly glabrous, terminating in a filiform hairy style. *Stigma* obtuse. The ripe fruit is similar to the pistil, except that the style is very much more lengthened out, flexuose, and clothed with long patent hairs. *Seed* erect, oblong. *Embryo* of the same shape, *radicle* inferior.

An inhabitant of the northern parts of North America. Discovered by Sir JOSEPH BANKS in Newfoundland. It was afterwards found upon the White Hills in New Hampshire, in Anticosti by PURSH, and in Greenland by the Danish botanists; and since by Dr RICHARDSON in the wooded country between Latitude 54° and 64° north; and more abundantly by the Officers of our late Arctic Expedition.

The plant from which the present drawing was taken, was brought by Mr GOLDIE from Canada (we believe gathered at Anticosti), and flowered in the Botanic Garden under a common frame in the month of April. It retains in cultivation all the characters of our dried native specimens: these characters depend almost wholly on the leaves, which are smaller than in *D. octopetala*, more heart-shaped at the base, recurved at the margin, not conspicuously veined beneath.—A leaf of the common *D. octopetala* is given at Fig. 2.

Fig. 1. Leaves of *D. integrifolia*. Fig. 2. Leaf of *D. octopetala*. Fig. 3. Section of the calyx, with stamens and pistils. Fig. 4. Pistil. Fig. 5. Stamen. Fig. 6. Ripe fruit, *natural size*. Fig. 7. Ditto, *magnified*. Fig. 8. Section of fruit, to shew the seed. Fig. 9. Embryo.—*All but Fig. 6. more or less magnified.*

2 Arabis arenosa

ARABIS ARENOSA.

Purple-flowered Arabis.

TETRADYNAMIA SILIQUOSA.—Nat. Ord. *CRUCIFERÆ.*

Gen. Char.—*Siliqua* linearis, stigmate subsessili coronata: valvis venosis v. nervosis. *Semina* uniseriata. *Cotyledones* accumbentes. *Calyx* erectus. —Br.

Arabis *arenosa*; foliis caulinis sinuato-pinnatifidis petiolatis, pube ramosa; caule hispido, pilis simplicibus; petalis calyce triplo longioribus.—Br.

Arabis arenosa, Scop. *Carn.* 337. t. 40.—Brown, *in Hort. Kew.* ed. 2. v. iv. p. 106. De Cand. *Syst. Veg.* v. ii. p. 232.

Sisymbrium arenosum, Linn. *Sp. Pl.* p. 919.—Willd. *Sp. Pl.* v. iii. p. 498.

Root small, simple, fusiform, annual, producing a few fibres; bearing at the top one or several erect, flexuose, terete, simple or slightly branched *stems*; these are hispid at the base, with patent, simple, rarely branching white hairs. *Leaves* mostly radical, spreading, from 2–3 inches long, upon rather long *footstalks*, lyrato-pinnatifid, the ultimate segments large, frequently triangular, the rest lanceolate, spreading, or often a little decurved; they are hispid, with branched hairs. The cauline *leaves* are more deeply pinnatifid, with linear segments, almost glabrous. *Flowers* rather large and handsome, of a pale lilac colour. *Pedicels* ½ an inch long, glabrous. *Calyx* of 4, leaflets, erect, hispid, green, 2 opposite ones larger than the other 2, and gibbous at the base. *Petals* much longer than the calyx, spreading, obovate, retuse, clawed. *Stamens* a little longer than the calyx. *Pistil* scarcely exceeding the stamens. *Fruit*: *Siliqua* about 2 inches long, patent, slender, linear; the *valves* scarcely veined, glabrous.

Native of rocky places and vineyards in sandy situations in the south of Europe, and a very desirable plant in our gardens; for it blossoms early (April), and makes a very beautiful appearance with its deeply cut dark green leaves, and large showy flowers.

It is an annual. We received the seeds from Professor LEHMAN of Hamburgh; and although it may probably safely be cultivated in the open air, yet we have kept the young plants during winter under a common frame.

It appears to have been introduced to our gardens, according to the 2d edition of Hortus Kewensis, in 1798, by Mr JOHN HUNNEMAN of London, a gentleman who, by means of his extensive acquaintance and correspondence upon the Continent, especially in Germany, has rendered many essential services to the botanists and cultivators of Britain.

Fig. 1. Flower. Fig. 2. The same, the petals being removed. Fig. 3. Pod *(natural size)*. Fig. 4. Portion of a pod; the valves (Fig. 5.) being removed, to shew the situation of the seeds. Fig. 6. Hairs from the stem and leaves.—*All but* Fig. 3. *more or less magnified.*

Harrisia rubra.

J. Sowerby del. et lith.

MARICA CŒRULEA.

Large blue-flowered Marica.

TRIANDRIA MONOGYNIA.—Nat. Ord. *IRIDEÆ.*

Gen. Char.—*Cor.* 6-partita, laciniis alternis, minoribus. *Stigmata* 3, petaloidea. *Stamina* cum stigmatibus alterna.—Spreng.

Marica *cærulea*; foliis ensiformibus æquitantibus, scapo alato multifloro, laciniis corollæ exterioribus rotundato-ellipticis patentibus.

Marica cœrulea, *Bot. Reg.* t. 713.—Spreng. *Sp. Pl.* v. i. p. 165.

Root of many strong, branching fibres, bearing several shoots. *Leaves* all radical, equitant, ensiform, with the margins membranaceous, and a strong central rib. *Scape* flat, much resembling the leaves, and terminating in a bivalved *spatha*, from which proceed 3 or more peduncles, each again crowned with a partial bivalved spatha, and including several flowers, which open in succession. The *valves* of the *general spatha* are unequal, and open at the apex; the *partial ones* are closed, equal in length, and about as long as the angular pedicels.

Corolla superior, 6-cleft, alternate and outer segments large, broadly elliptical, mucronate, spreading, concave; the inner ones much smaller, spreading below, then bent inwards, and in the upper half revolute. The lower third of the limb of the corolla forms a shallow cup, which is pubescent, transversely variegated with brown and yellow within, yellow without; the remainder of the limb is glabrous; the *colour* of the segments a beautiful ultramarine blue, the smaller ones with oblique veins of white. The pubescence above alluded to has a frosted appearance. It discharges a transparent fluid, and disappears as soon as touched.

Filaments of the *stamens* erect, opposite to the larger segments of the corolla, thin, flat, with a prominent keel on the outside, white, purple and dilated at the base, and inserted into the base of the corolla: *Anthers* half the length of the filament, of two dark purple lateral cells. *Pollen* greenish-yellow.

Pistil: germen obtusely triangular, 3-celled, with numerous ovules attached to the inner angle of the cells; *style* clavate, tricarinate, reddish-purple; *stigmas* 3, petaloid, cleft at the apex, so as greatly to resemble a personate corolla, compressed, the edges turned outwards, and inserted between the cells of the anthers, which grasp them, and thus sup-

port in an erect position the filaments, which immediately fall down when drawn from this connexion.—GRAHAM, MSS.

This splendid plant flowered in the stove of Professor DUNBAR at Edinburgh on the 20th of June of this year (1825), when the drawing was made by Dr GREVILLE, and the full and accurate description above given was drawn up by Dr GRAHAM. It far exceeds the *Marica Northiana* in the beauty of its blossoms: from which species it differs, not only in the colour of the flowers, but in the relative number on each scape, as well as in the shape and direction of the exterior segments of the corolla.

Fig. 1. Portion of a flower, shewing the situation of the stamens with regard to the stigmas. Fig. 2. Outer segments of the corolla, seen from behind. Fig. 3. Front view of a stamen. Fig. 4. Side view of ditto. Fig. 5. Section of ditto, cut transversely through the anthers. Fig. 6. Pistil. Fig. 7. Section of the germen.—Figs. 3, 4, and 5. *more or less magnified.*

Ficus carica

FICUS CORIACEA.

Coriaceous-leaved Fig.

POLYGAMIA DIŒCIA.—NAT. ORD. *URTICEÆ.*

GEN. CHAR.—*Receptaculum* commune subsphæricum, carnosum, connivens, flosculos numerosos occultans.—MASC. *Cal.* 3-partitus. *Cor.* 0. *Stam.* 1–3.—FŒM. *Cal.* 3–5-partitus. *Cor.* 0. *Pistillum* 1. *Semen* unicum.—*W.*

Ficus *coriacea*; foliis ellipticis obtusissimis coriaceis, basi subattenuatis, supra glabris nervis impressis (pallidis), subtus (petiolisque) pubescentibus venis prominentibus, receptaculis sessilibus geminatis globosis subverrucosis velutinis.

Ficus coriacea, AIT. *Hort. Kew.* ed. 1. v. iii. p. 433.

This seems to form a *tree,* with rounded branches, clothed with greyish smooth bark, jointed with transverse lines. *Leaves* 4–5 inches long, coriaceous, subattenuated at the base (but not cordate), very obtuse at the extremity, above quite glabrous, very dark green, with the midribs and nerves pale, immersed; below pale green, subpubescent, the midrib and nerves prominent. *Petioles* an inch and a half to two inches long, semicylindrical, pubescent.

Receptacles globose, three-fourths of an inch in diameter, quite sessile, somewhat warted, of a brownish-orange colour, velvety, surrounded at the base with 3 broadly ovate glabrous bracteæ.

This is a plant that has been long cultivated in the Botanic Garden of Liverpool, but from what country it came is not known. It there stands under the name of *Ficus coriacea*, a species adopted by Mr AITON, and unknown, as it would appear, to other Botanists.

Fig. 1. A receptacle separated from the branch.

2

3

Tabernaria fimbriata

HABENARIA FIMBRIATA.

Purple fringed Habenaria.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Div. *Anthera* adnata terminalis persistens. *Pollinis Massæ* e lobulis angulatis elastice cohærentibus; basi affixæ.—Br.

Gen. Char.—*Corolla* ringens. *Labellum* basi subtus calcaratum. *Glandulæ* pollinis nudæ, distinctæ (loculis pedicellorum adnatis vel solutis distinctis).—Br. *in Hort. Kew.*

Habenaria *fimbriata*; cornu filiformi germine longior, labello tripartito laciniis cuneiformibus fimbriatis.—*Br.*

Habenaria fimbriata, Br. *in Hort. Kew.* ed. 2. v. 5. p. 193.

Orchis fimbriata, Dryander, *in Hort. Kew.* ed. 1. v. iii. p. 297.—Willd. *Sp. Pl.* v. iv. p. 39.—Pursh, *Fl. Am. Sept.* v. ii. p. 588.

Root fasciculated, formed of several thick, simple, fleshy, flexuose fibres, of which one is generally considerably larger than the rest.

Stem about a foot in height, erect, almost exactly and acutely tetragonal below, above deeply striated. *Leaves* rather distantly placed, the lowermost ones the largest, oblongo-obovate, obtuse, the uppermost gradually smaller, lanceolate, carinate, acute, all glabrous, faintly striated.

Flowers arranged in an oblongo-ovate spike, and of an uniform paleish purple colour. *Bracteas* green, subulato-lanceolate, longer than the germen. *Petals* (or segments of the perianth) patent; the five uppermost ones obovate; of these the three outermost are slightly concave, entire at the margin; the two innermost ones more inclining to obovate, nearly plane, toothed at the margin; the sixth petal or *labellum* is large, pendent, the base very narrow, white, terminating below in a filiform spur, which is rather longer than the germen, and slightly clavate towards the extremity; the rest cut into three cuneate segments, the intermediate ones much the largest and broadest, all of them cut and beautifully fimbriated at the upper margins. *Germen* rather long, twisted. *Column* short, white. *Stigma* concave. *Cells* of the anther set much apart, especially at the base, and purplish. *Pollen-masses* dark green, pedicellated and glandular at the base.

This elegant orchideous plant appears to have been introduced into our gardens from Newfoundland by Dr WILLIAM PITCAIRN, in 1777, and is found likewise to be a native of North America, where its native places of growth extend from Canada to Pennsylvania. Among a valuable collection of living plants, sent to our Botanic Garden from the neighbourhood of Montreal by Mr KIPPIN, there were some roots of this, which being placed in a large box, flowered beautifully under a common frame in the beginning of the month of June. Mr CLEGHORN, of the same place, has been kind enough to supply us with dried specimens, exactly similar to those here figured; but other individuals which I have received from my friend Dr BOOTT, gathered in the neighbourhood of Boston, differ in having a far larger and more densely crowded spike, yet (unlike almost every other plant which I have received from that fertile country, where vegetation attains an unusually large and luxuriant size) with flowers not one-third of the size of the present. In every every other particular they appear to be the same.

We find that plants of *Habenaria fimbriata* thrive well in a mixture of peat and decayed vegetable mould. They are placed in the same box with the roots of *Cypripedium spectabile*, which has likewise flowered with us this year in the greatest perfection.

Fig. 1. Single flower, *magnified*. Fig. 2. Portion of the germen, with the column of fructification and spur (the petals being removed). Fig. 3. Single pollen-mass, removed from the cell.—*All more or less magnified.*

1
2
3
4
5
6
7
8
9
10
11
12
13

VIOLA HEDERACEA.

Stoloniferous New Holland Violet.

PENTANDRIA MONOGYNIA.—NAT. ORD. *VIOLACEÆ.*

GEN. CHAR.—*Cal.* 5-phyllus. *Cor.* 5-petala, irregularis, postice cornuta. *Anth.* cohærentes. *Caps.* supera, 3-valvis, 1-locularis.

Viola *hederacea*; caulibus subnullis stoloniferis, foliis fasciculatis reniformibus denticulatis longe petiolatis, stipulis subulatis, calycibus vix productis, petalo infero ovali bifido, basi subtus gibboso.

Viola hederacea, LABILL. *Fl. Nov. Holl.* v. i. p. 66. t. 91.—DE CAND. *Prodr.* v. i. p. 305.

Glabrous. The *stem*, or point from which the leaves spring, is scarcely any, apparently constituted by the united bases of the petioles, throwing out long, filiform, glabrous stolons, which again produce clusters of leaves at various distances, and always at the base of each cluster send forth a rather strong, fibrous branching root. *Leaves* fasciculated, from 3–6 in a cluster, an inch or an inch and a half broad, when young, almost cuneate, and their sides rolled inwards, afterwards reniform and plane, or even convex on the upper surface, obscurely nerved, the margin denticulated, placed upon slender grooved petioles, from 2 to 4 or 5 inches long.

Peduncles or scapes from the axils of the leaves, erect, longer than the leaves, with an indistinct groove, and two subulate *bracteæ* near the middle. *Calyx* shorter than the corolla, cut into 5 deep spreading, ovato-lanceolate segments, scarcely at all produced at the base. *Flowers* scentless, purple, marked with deeper stains, white at the tips. Two upper *petals* reflexed: two lateral ones obliquely twisted, gibbous near the base, and pubescent: lower petal oval, bifid, striated, the base gibbous only on the under side, convex on the upper, green, with a white margin *Anthers* nearly sessile, large, yellow-brown, appendaged at the extremity. *Germen* obovate. *Style* bent at the base, filiform. *Stigma* white, tapering from the style, acute. *Capsule* oval, 3-valved: *Valves* with a septum down the middle, to which the numerous obovate *seeds* are attached. *Seeds* with a rachis. *Albumen* white. *Embryo* with its radicle pointing downwards.

Seeds of this very interesting little plant were sent by Mr FRASER, Colonial Botanist at Sidney, New South Wales, in the year 1824, to the Botanic Gardens of Edinburgh and Glasgow, and in both they blossomed in the month of May. They succeed well in the greenhouse.

There can, I think, be no question of the plant being the same as that figured by LABILLARDIERE under the name of *hederacea*. DE CANDOLLE enumerates three varieties, but which he suspects will prove to be distinct species.

This plant differs remarkably from other violets, not only in the stolons (which run down the side of the pot like those of *Saxifraga sarmentosa*), but in the scarcely produced bases of the calyx, and in the absence of a true spur.

Fig. 1. Back view of the calyx. Fig. 2. Flower from which the petals have been removed. Fig. 3. Pistil. Fig. 4. Back view, and Fig. 5. Front view of a stamen. Fig. 6. One of the upper petals. Fig. 7. One of the side petals. Fig. 8. Lower petal. Fig. 9. Side view of a lower petal. Fig. 10. Capsule, *natural size*. Fig. 11. The same open, *magnified*. Fig. 12. Seed. Fig. 13. The same cut open, to shew the albumen, and embryo.—*All but* Fig. 10. *more or less magnified*.

Neottia plantaginea

NEOTTIA PLANTAGINEA.

Plantain-leaved Neottia.

GYNANDRIA MONANDRIA.—Nat. Ord. *ORCHIDEÆ.*

Gen. Char.—*Cor.* ringens: petalis exterioribus anticis labello imberbi suppositis; interioribus conniventibus. *Columna* aptera. *Pollen* farinaceum.—Br.

Neottia *plantaginea;* foliis radicalibus oblongo-lanceolatis, scapo aphyllo, perianthii laciniis tribus exterioribus lineari-acuminatis, extus pubescenti-glandularis, basi in calcare longo producto adnato terminatis.

Radical *leaves* 1–3, 5–6 inches long, oblongo-lanceolate, nerved, tapering at the base, but not petiolated. The scape is destitute of leaves, but has 5 or 6 sheathing, lanceolato-acuminate, appressed bracteæ, rounded, erect, tapering upwards, glabrous below, glanduloso-pubescent above. *Spike* oblong, of several closely placed, nearly erect, greenish-red flowers, afterwards bent down. Three outer segments of the *perianth* erect, glanduloso-pubescent, united at the base, the two lower ones running down (and adnate with the germen) into a hollow obtuse *spur*, almost half the length of the germen: two inner segments nearly as long as the outer ones, linear-lanceolate, acuminate, quite glabrous, lying within the two upper of the outer segments, and appressed to, and slightly cohering with them. *Lip* inserted into the base of the spur, linear-lanceolate, recurved at the extremity, of a pale rose colour. *Germen* clavate, sulcate, twisted, glandular. *Column* of fructification exactly as in *N. speciosa*.

A native of Trinidad in the West Indies, whence it was communicated to our Botanic Garden and that of Liverpool by the late Baron De Schack. It flowered in both these establishments in the month of April of the present year. Similar as the flowers may be in structure to those of *N. speciosa* and *N. orchioides*, they possess little of their beauty; for they are entirely of a livid greenish-red. The plant is of much taller

and slenderer growth than the species just alluded to, the radical leaves are very different in form, and the flowers are smaller and much narrower in proportion to their length.

Fig. 1. Flower. Fig. 2. Flower with the two outer segments of the perianth removed. Fig. 3. The lip. Fig. 4. Column of fructification. Fig. 5. Interior of the anther-case. Fig. 6. Pollen-mass.—*All more or less magnified.*

Didymocarpus Kerri.

DIDYMOCARPUS Rexii.

Twisted-fruited Didymocarpus.

DIDYNAMIA ANGIOSPERMIA.—Nat. Ord. *CYRTANDACEÆ, Jack.*

Gen. Char.—*Cal.* 5-fidus. *Cor.* infundibuliformis, limbo quinquelobo subirregulari. *Stam.* duo, plerumque abortiva. *Capsula* siliquiformis, pseudo-quadrilocularis, bivalvis: valvis medio placentiferis, placentis bilamellatis, lamellis revolutis, margine intus seminiferis.

Didymocarpus *Rexii*; acaulis pubescens, foliis oblongis basi ovatis obtuse serratis, scapo unifloro bibracteato, capsula spiraliter torta.

Didymocarpus Rexii, Bowie, MS.

Perennial, stemless. From the top of the fibrous root spring from 4–7 oblong or somewhat obovate, pubescent leaves, 3–6 inches long, tapering gradually into a sort of footstalk at the base, often much more so than is represented in the figure, the surface wrinkled and veiny, the under side paler, and the veins more prominent.

From the centre of the leaves arise from 2 to 5 single-flowered scapes, bearing two small bracteæ above the middle. *Calyx* 5-partite, the segments lanceolate, short. *Corolla* 2 or 2½ inches long, infundibuliform, of a delicate purplish-blue colour, externally almost white and downy, the tube a little ventricose upwards on the under side: the limb 5-lobed, the 2 upper lobes the smaller, each with 3 obscure lines, the 3 lower each with 3 deep purple lines. *Stamens* inserted near the centre of the tube, the two lateral ones abortive, sometimes altogether wanting, the central ones with curved, whitish filaments, the anthers 2-lobed, joined together. *Pistil: Germen* linear, downy, purplish: *style* filiform, white, as well as the bilamellated, downy stigma. *Capsule* 4–5 inches long, siliquiform, terminated by the withered style and stigma, 2-valved, the valves curiously twisted spirally, and when ripe separated from the seminal receptacles or placentæ, which had previously occupied the centre of each valve. These receptacles divide into two lamellæ, which are recurved, or rather revolute, bearing the seeds pendent, and attached to the inner margin of each lamellæ. Before the capsule is quite ripe, the receptacles are so placed (see Fig. 5.) as to appear to divide the capsule into four cells; but unless the early and imperfect cohesion of the two opposite plates of the receptacle can be considered as forming 2 cells, the capsule is really only 1-celled, as in other *Didymocarpi* I have examined from the East Indies. *Seeds* oblong, brown, very minute, slightly attenuated at each extremity.

I saw this charming plant blossoming in great perfection at Kew Gardens in October 1826, and thence I have been favoured with the specimen from which the accompanying drawing was taken. The seeds were sent by Mr BOWIE from the interior of South Africa; and having been first discovered by that indefatigable botanist (in 1818) in the forest lands of GEORGE REX, Esq. at the Knysna, he is anxious it should bear the name of that gentleman, " as a small memorial of the great hospitality and friendship he enjoyed, whilst travelling in South Africa, and to whom all the late scientific travellers, as well as himself, have been under great obligations, for so readily entering into their plans, and furthering their views."

I forbear making any observations on the genus of this remarkable plant, because Mr AITON informs me that Mr BROWN has shewn an interest in it; and his ideas respecting it will, I trust, be one day given to the public. It increases most rapidly by seeds; and so desirable an inhabitant of our greenhouses must doubtless soon become common.

My object in figuring it at this time, is to secure to Mr BOWIE the credit of discovering so interesting a plant, and to Mr AITON that of being its first cultivator.

Fig. 1. Stamens. Fig. 2. Anthers. Fig. 3. Pistil. Fig. 4. Stigma. Fig. 5. Section of a young capsule. Fig. 6. Ripe capsule, *natural size*. Fig. 7. Portion of a seminal receptacle. Fig. 8. Seeds.—*All but* Fig. 6. *more or less magnified.*

Canna fulgens

CANNA PATENS.

Spreading-flowered Indian Shot.

MONANDRIA MONOGYNIA.—Nat. Ord. *CANNEÆ, Br.*—CANNÆ, *Juss.*

Gen. Char.—*Anthera* simplex, margine filamenti petaloidis affixa. *Stylus* spathulatus adnatus tubo corollæ: *stigma* lineare. *Capsula* 3-locularis, 3-valvis. *Semina* plura.—Roxburgh.

Canna *patens*; foliis ovato-lanceolatis, limbi interioris perianthio labio superiore trifido, laciniis æqualibus oblongo-spathulatis, erecto-patentibus labello revoluto apice bifido.

Canna patens, Roscoe, *in Linn. Trans.* v. viii. p. 338.?—Ait. *Hort. Kew.* ed. 2. v. i. p. 1.—*Bot. Reg.* t. 576.—Roscoe, *Monandr. Pl. cum Ic.*

Canna indica, ∂ patens. Ait. *Hort. Kew.* ed. 1. v. i. p. 1.—Willd. *Sp. Pl.* v. i. p. 3.

Canna indica, Curt. *Bot. Mag.* t. 554. (excl. the syn.)

Canna aureo-vittata, Lodd. *Bot. Cab.* t. 449.

Canna limbata, *Bot. Reg.* t. 771.

Stems 3–4 feet high. *Leaves* ovato-lanceolate, subacuminated, the edges distinctly marked with a diaphanous border.

Flowers racemed, arising from a large, sheathing, green, powdery, general bractea, and each blossom from a broad, short and obtuse partial one. *Calyx* of 3 ovate, pale green, powdery, erect segments. *Corolla* tubular, below expanding into a double *limb*, of which the *exterior* consists of 3 lanceolate, erecto-patent, yellow-green, equal segments, involute at their margins: the *interior* bilabiate; *upper lip* of 3 equal, oblongo-spathulate, erecto-patent laciniæ, scarlet, with the edge and the nerve at the back often yellow, the apex frequently notched; the lower lip or *labellum* rather broadly linear, revolute, yellow, spotted with scarlet, obtusely bifid at the point. *Stamen*:—filament much resembling the labellum, and revolute at the extremity, bearing the anther at the side: *germen* roundish, tuberculated, green; *style* erect, plane, linear, or a little dilated upwards. *Stigma* terminal, transverse.

Nothing is more true than the observation made by Mr Gawler in the Botanical Register, that "it has been the lot of several species of this genus to have been arranged in the various systems of vegetables, by characters too vague, or too scanty, to insure them from obscurity and uncertainty." In these respects, the present individual has been peculiarly un-

fortunate. It appeared in CURTIS's Botanical Magazine, under the name of *C. indica*, with references to plates and descriptions which evidently do not belong to it. CURTIS's figure, which is really admirable, is next quoted by Mr ROSCOE, and by Mr AITON in the 2d edition of the Hortus Kewensis, under the name of *C. coccinea*. Then Mr GAWLER gives an equally good delineation, at t. 576. of the Botanical Register, under the appellation of *C. patens* (it being the *C. indica*, var. *patens*, of the 1st ed. of Hort. Kew.), referring to the *C. patens* of ROSCOE in the 8th volume of the Linnæan Transactions, and to CURTIS's *C. indica*; and giving an excellent specific character from ROSCOE's MS. Mr GAWLER, however, is afterwards induced to consider, from a passage in the 10th volume of the Linnæan Transactions, that Mr ROSCOE's *C. patens* is not, as he supposes, the original *patens* of Hortus Kewensis, but the *C. gigantea* of REDOUTE's *Plantes Liliacées*. Again, as it appears to me, Mr GAWLER has given the same species under the name of *C. limbata*, and Mr LODDIGES under that of *C. aureo-vittata*.

By the view of the flower at Fig. 2., it will be seen that the 3-cleft superior lip of the inner limb of the corolla, is in reality 2-cleft, one segment being again divided; then, with the labellum, constituting what is so common in the *Monocotyledonous Plants*, a trifid limb.

The native country of this species is unknown *. It is a handsome plant, and flowers during the greater part of the year. The specimens here figured were drawn in February, from individuals that blossomed in the Glasgow Botanic Garden.

Fig. 1. Front view of a flower: *a*, Outer perianth; *b*, Outer limb of the inner perianth; *c*, the three divisions of the inner perianth; *d*, The labellum; *e*, The stamen and style. Fig. 2. Flower, with the outer perianth removed: *a*, Outer limb of the inner perianth; *b*, Inner limb, tubular below, and trifid, or rather bifid, with the larger segment again divided higher up; *c*, The labellum. Fig. 3. Flower from which every thing is removed, but *a*, the labellum; *b*, The petaloid filaments, bearing the lateral anther; *c*, The style with its small transverse stigma at the top.—*More or less magnified.*

---

* Mr ROSCOE, in his fine work on the Monandrian Plants, says that the *C. patens* has been received from the Island of St Helena, where it is probably indigenous.

Calliopsis atrorubens

SALPIGLOSSIS STRAMINEA.

Straw-coloured Salpiglossis.

DIDYNAMIA ANGIOSPERMIA.—NAT. ORD. *BIGNONIACEÆ.*

GEN. CHAR.—*Cal.* 5-partitus, subinæqualis. *Cor.* infundibuliformis, limbo 5-lobo. *Filam.* quintum, sterile. *Stylus* apice dilatatus. *Capsula* 2-locularis, dissepimento valvis parallelo.

Salpiglossis *straminea;* caule glanduloso, stylo edentulo.

Herbaceous, from a foot and a half to two feet high, panicled above; the *stem* and branches cylindrical, slender, and, as well as the whole, even to the outside of the corolla, clothed with glandular and slightly glutinous pubescence. *Leaves* remote, linear-oblong, tapering at the base into a sort of petiole, the margins sinuato-dentate, the uppermost leaves gradually passing into linear entire bracteæ. *Flowers* paniculate, each pedicel having a bracteæ at its base. *Calyx* oblongo-ovate, cut about half-way down into five upright linear-lanceolate teeth, and marked with as many elevated, green, glandular, elevated lines. *Corolla* large, handsome, funnel-shaped, straw-coloured, marked with several fulvous branching lines or veins: the limb somewhat oblique, cut into 5 broad and notched unequal spreading segments, of which the upper one is the largest, and the two lowermost ones the smallest. *Stamens* 4, didynamous, inserted near the base of the corolla, together with a fifth abortive filament. *Filaments* glandular and white below, glabrous, acuminated, and purple above. *Anthers* large, bluntly cordate, of two oval lobes, opening by a fissure above. *Pollen* yellow. *Pistil: Germen* oblongo-ovate, with a groove on each side, 2-celled, with numerous ovules attached to a large fleshy centre receptacle. *Style* as long as the tube of the corolla, green, dilated upwards, and terminating in the broad, compressed, grooved, yellow stigma.

The seeds of this rare but highly interesting plant were sent to our Botanic Garden from Chili, by ALEXANDER CRUICKSHANKS, Esq. in 1825, and they produced flowering plants which flourished in the greenhouse in the summer of

1826, and continued blossoming for three months in succession. The same gentleman has communicated to us well dried specimens of the same plant.

The figure of the flowers of *Salpiglossis* given in RUIZ and PAVON, differ considerably in the shape of the corolla, and in that of the style, from the species here represented; add to which, the corolla is in the *S. sinuata*, the only species hitherto described, said to be scarlet: hence I am led to consider our plant distinct.

Fig. 1. Portion of the corolla, with the stamens. Fig. 2. Portion of a stamen, with the cells of the anther closed. Fig. 3. Ditto, with the cells burst. Fig. 4. Calyx. Fig. 5. Pistil. Fig. 6. Section of a germen.—*All more or less magnified.*

1
2
3
4
5

STAPELIA HIRSUTA.

Large hairy Stapelia.

PENTANDRIA DIGYNIA.—NAT. ORD. *ASCLEPIADEÆ, Br.*

GEN. CHAR.—*Cor.* rotata, 5-fida, carnosa. *Columna fructificationis* exserta. *Corona staminea* duplex, interior quandoque obsoleta. *Antheræ* apice simplices. *Massæ pollinis* basi affixæ, altero margine cartilagineo-pellucido. *Stigma* muticum. *Folliculi* subcylindracei, læves. *Semina* comosa.—BR.

Stapelia *hirsuta*; corollæ laciniis ovatis rugosis ciliatis, corone *exteriore* ligulatis, *interiore* rostro subulato alis subæque longe intus dentatis.

Stapelia hirsuta, LINN. *Sp. Pl.* v. i. p. 316.—WILLD. *Sp. Pl.* v. i. p. 1278.—AITON, *Hort. Kew.* ed. 2. v. ii. p. 85.—JACQ. *Misc.* v. i. p. 28. t. 3.—HAW. *Succ. Pl.* p. 19.—JACQ. *Stap. cum Ic.*

Stems from 6–8 inches high, tetragonous, slightly downy, glaucous green, the sides somewhat depressed or grooved, the angles toothed, the teeth erect.

Peduncles from the base of the stems 2–3 inches long, rounded, single flowered. *Calyx* 5-partite, the segments lanceolate. *Corolla* of 5 ovate segments or rays, spreading horizontally, the margins reflexed and hairy with purple long hairs, as is the upper surface to a less degree, which is moreover transversely wrinkled, yellow, with numerous transverse, waved lines, of a deep brownish-purple colour, and the same colour at the base and extremities of the segments. The whole centre, around the organs of fructification, is occupied by a cushion-like mass of fine purplish hairs. *Stamineous crown* double; the exterior of 5 ligulate, rather acute leaflets, standing out horizontally; the inner of as many vertical, nearly erect plates, formed above into a subulate rostrum, and below into a broad wing, nearly as long as the beak, denticulate above. *Anther* of 2 cells. *Pollen-masses* deep yellow.

This handsome species of *Stapelia* is said to be figured in old BRADLEY's work on Succulent Plants; but it does not appear to have obtained a place in any of the more modern works

on British Horticulture; and yet I believe it is far from being uncommon in our stoves. The representation here given was taken from a plant that flowered some years ago in my stove at Halesworth, Suffolk.

Fig. 1. The stamineous crown. Fig. 2. View of a column of fructification, the inner crown being removed. Fig. 3. One of the segments of the inner crown, with the anther-case. Fig. 4. The anther-case. Fig. 5. Pollen-masses.—*All more or less magnified.*

Parkeria pteridoides.

PARKERIA PTERIDOIDES.

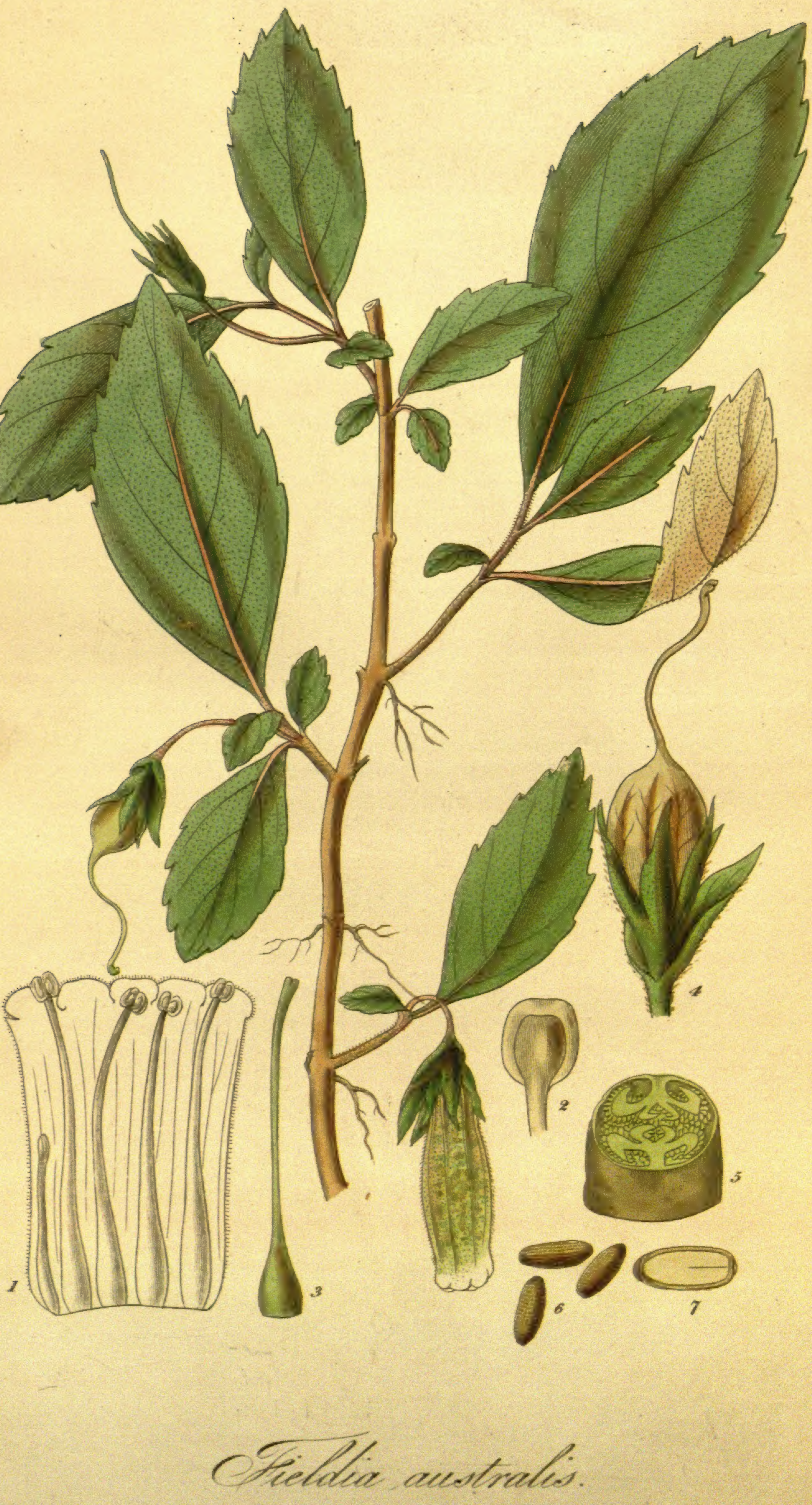
Pteris-like Parkeria.

(Class and Order, Generic Character, &c. see T. 147. of this Work.)

The figure and description of this plant would indeed be imperfectly given in this work, were we not to publish supplementary ones to those which will be found at T. 147. Our friend Mr PARKER, the discoverer of the plant, has recently had the good fortune to receive from Demerara living plants, which, planted in water in the Liverpool Botanic Garden, have flourished in the greatest perfection. From these, it appears, that when the fructification becomes ripe, the fronds have decayed away. These fronds float on the water like the leaves of *Trapa natans;* several proceed from the same root, and are broadly ovate, 3-lobed, cut and notched at the margin, thin, and somewhat membranaceous, the base tapers into a remarkably thick cellulose footstalk, having many small scales on the under side. The *frond* is proliferous in a most remarkable degree: every notch and cleft having the power of throwing out a new plant; and a piece torn from the parent, and suffered to remain in the water, becomes clothed, in a short time, with new plants, as seen at Fig. 1. From the centre of the fronds, as at Fig. 3., the fertile stipes, which bears the fructification, arises; and till this fertile frond is fully grown, the barren fronds retain all their vigour of form and colour; and in this state the plant is most beautiful.

If kept in the stove, this plant is by no means difficult of cultivation.

Fig. 1. Proliferous portion of a frond. Fig. 2. Young fronds. Fig. 3. Fronds more advanced. Fig. 4. Under side of a frond. Fig. 5. Section of the petiole.—*All but* Fig. 5. *of the natural size.*



Fieldia australis.

FIELDIA AUSTRALIS.

New Holland Fieldia.

DIDYNAMIA ANGIOSPERMIA.—NAT. ORD. *BIGNONIACEÆ.*

GEN. CHAR.—*Cal.* duplex, *ext.* (bractea) spathiformis, profunde fissus, 5-partitus, persistens. *Cor.* tubuloso-ventricosa, limbo 5-lobo, æquali, subbilabiato, rudimentum filamenti quinti inter stamina longiora. *Stigma* bilamellatum. *Bacca* (alba) spongiosa, carnosa, 1-locularis. *Semina* numerosa, parva, nidulantia.—CUNN.

Fieldia *australis.*

F. australis, CUNNINGHAM, *in Field's Mem. of N. S. Wales*, p. 364. (with a figure).

Somewhat shrubby. *Stem* climbing and rooting, so as to be almost parasitical upon the trunks of trees, branched, with the branches, especially the younger ones, clothed with a dense ferruginous down; the older ones and stems nearly glabrous. *Leaves* opposite, remote, very unequal in size, generally a small one being placed opposite the larger, elliptical, acute at both extremities, deeply serrated in the upper half, "entire in the old ones;" downy on each side, the upper of a dark green colour, the under side pale rusty. *Veins* obscure. *Petiole* very short and downy. *Peduncles* axillary, solitary, about an inch long, terminated by a solitary pendulous flower. *Exterior calyx* (bractea) spathiform, ovate, deeply cut into two equal lanceolate segments: *inner calyx* 5-partite, segments lanceolate, and, as well as the outer calyx, downy. *Corolla* greenish-white, about 2 inches long, slightly pubescent and veiny, tubular and ventricose, the limb cut into 5 short, nearly equal, rounded segments, scarcely 2-lipped. *Stamens* inserted into the base of the corolla, 4 perfect, nearly as long as the the corolla, scarcely didynamous, and a fifth small, imperfect one: *Filaments* much dilated at the base: *Anthers* 2-celled, roundish. *Pistil* about as long as the corolla: *Germen* ovate: *style* filiform: *stigma* capitate, bifid. *Fruit* an elongated oblong *Berry*, longer than the persistent calyx, between fleshy and spongy, terminated by the style. *Seeds* oblong, dotted, very minute, attached apparently to two fleshy bilamellated parietal receptacles.

With the present subject, I terminate, with some regret, the *Exotic Flora*; for, though attended by no little toil and anxiety, it has been productive to me of much and lasting pleasure. It has been the means of procuring me the friendship or correspondence of many whose pursuits and tastes are similar to my own,—of recording their discoveries and their zeal in the cause of science,—and thus, by commemorating their names, to connect them in some measure with my own. To this work

do I owe the acquaintance of the gentleman after whom the present plant is named, together with the possession of a valuable collection of New Holland plants, and the use of many excellent drawings made in that country. It has not, however, been my agreeable task to dedicate the genus to him, that having been already done in the work above quoted by Mr ALLAN CUNNINGHAM. "The name," he says, "now proposed, is intended to commemorate that of BARRON FIELD, Esq. late Judge of the Supreme Court of New South Wales, who has, in his judicial capacity, much aided the advancement of the colony to its present flourishing state, and whose important researches there, in various branches of physical science, will materially tend to confer that interest upon our distant settlement which it so richly deserves, and which remains, in a great measure, to be appreciated."

To this gentleman I am indebted for excellent dried specimens, from which I have been enabled to make the accompanying figure. I need scarcely add any remarks to Mr CUNNINGHAM's accurate description, done from living specimens, farther than to say, that the fruit has not so decidedly the appearance of a berry as might have been expected. The pericarp is of a membranous nature, easily separable from the pulpy substance, and numerous seeds within; and, on making a careful dissection transversely, there appear to be two soft fleshy and large parietal receptacles, divided each into four recurved lamina, upon all sides of which the numerous seeds are inserted. These receptacles and seeds, too, bear so much resemblance to those of the *Didymocarpus*, given in the present number, that the plant may belong to that division of *Bignoniaceæ*.

Fieldia australis was first detected by Mr G. CALEY, Colonial Botanist, but not in a good state, upon the Blue Mountains in 1804. In 1822, Mr ALLAN CUNNINGHAM was so fortunate as to find it in fruit, upon naked rocks on the Five Islands; and in the following year in full flower, among the shady woods of Tomah, where it climbs, by means of its cauline radicles, upon rough rocks, much in the same way that the ivy does in our country, and the *Begonia Urtica* in Brazil.

Fig. 1. Corolla, laid open to shew the stamens. Fig. 2. Back view of an anther. Fig. 3. Pistil. Fig. 4. Fruit. Fig. 5. Section of ditto. Fig. 6. Seeds. Fig. 7. Section of ditto.—*All more or less magnified.*

FINIS.